

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES.

JANUARY—JUNE

1848.

Vol. VIII will appear on the 1st of January, 1849.

Books, &c., for notice, to be sent as soon as published (carriage free) to Mr. Churchill, Princes street, Soho, or to the Editor, Norwich.

TO THE SUBSCRIBERS

OF THE

HALF-YEARLY ABSTRACT

OF THE

Medical Sciences.

In consequence of new and convenient Postal arrangements, by which Books can be transmitted, the subscribers of the 'Half-Yearly Abstract' resident in Great Britain and Ireland are informed that in future their copies will be sent to them through the post, *free of expense*, thus enabling them to receive each volume on the day of publication, without trouble to themselves.

In order, however, to carry out this desirable arrangement, it is *absolutely necessary* that the Editor should be made acquainted with the *names* and *addresses* of his numerous subscribers, of which he is at present ignorant, and he *therefore requests that such names and addresses may be forwarded to him at the earliest possible convenience of each individual.*

The Editor does not wish to disguise the fact, that the transmission of the 'Half-Yearly Abstract' to his subscribers in the way proposed, will be a means of considerably increasing his personal emoluments; but he feels assured that, from the labour he has bestowed upon a work especially devised for the benefit and convenience of the busy practitioner, and the high position it occupies also in the estimation of scientific men, he may count upon such additional encouragement

being cheerfully accorded to him, especially as it is not attended by increase of expense to the subscriber.

Subscribers are reminded that the Annual Subscription is *Thirteen Shillings in advance*; upon the receipt of which, by post-office order to Harcourt Ranking, Norwich, Volumes VIII and IX for the year ensuing, will be sent *free* by post.

Back numbers, from Volume I to VII, will be forwarded on receipt of a post-office order, at the rate of six shillings and sixpence per volume.

The Colonial and Foreign circulation will be managed as heretofore by Mr. Churchill, the publisher.

NORWICH,
June 20, 1848.

SECT. III.—*Treatment of Surgical Diseases.*

SECT. IV.—*Rare Surgical Cases.*

PART III.—MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—*Midwifery and Diseases of Women.*

SECT. II.—*Diseases of Children.*

REPORTS.

ERRATA.

In Vol. VI, p. 338, Par. 17, for "Dr. Thomas Addison," read "Dr. Thomas Williams."
Page 413, line 19, for "Dr. P. Smith," read "Dr. Simpson."

CONTENTS.

PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—*Zymotic Diseases.*

SECT. II.—*Diseases of the Nervous System.*

SECT. III.—*Diseases of the Respiratory System.*

SECT. IV.—*Diseases of the Circulatory System.*

SECT. V.—*Diseases of the Chylopoietic System.*

SECT. VI.—*Diseases of Uncertain or Variable Seat.*

SECT. VII.—*Diseases of the Urinary System.*

PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

SECT. II.—*Nature and Causes of Surgical Diseases.*

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D. CANTAB.

LATE PHYSICIAN TO THE SUFFOLK GENERAL HOSPITAL.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. VII.

JANUARY—JUNE 1848.

LONDON:
JOHN CHURCHILL, PRINCES STREET, SOHO.
EDINBURGH: MACLACHLAN & CO.
DUBLIN: FANNIN & CO.

MDCCCXLVIII.

NOTICE TO CORRESPONDENTS.

The Editor requests that all communications be forwarded (free) either to Mr. CHURCHILL, *Princes street, Soho, London, or to himself, addressed* Dr. RANKING, *Norwich.*

The Editor is compelled to remind his American correspondents that no parcels are taken in, unless the entire charge is paid upon them.

Numerous Journals and other communications from America, with a charge varying from 10*s.* 6*d. upwards, have been refused.*

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

British and Foreign Medico-Chirurgical Review.
Medico-Chirurgical Tra[illegible]
Edinburgh Me[illegible] d [illegible]
London and Edinburgh Monthly Jo[illegible]
Dublin Quarterly Journal of the Medical Sciences.
Lancet.
Medical Gazette.
Provincial Medical Journal.
Medical Times.
Dublin Medical Press.
Bell's Pharmaceutical Journal.
Guy's Hospital Reports.
Chemical Gazette.
Chemist.
British Record of Obstetrical Medicine and Surgery.

AMERICAN.

American Journal of the Medical Sciences.
" *of Science and Art.*
Philadelphia Medical Examiner.
New York Journal of Medicine.
Boston Medical and Surgical Journal.
Southern Medical and Surgical Journal.
British American Journ. of Med. Science.

FRENCH.

Annales de Chirurgie.
" [illegible]*giène.*
[illegible] *Chimie et de Pharmacie.*
[illegible] *des Maladies de la Peau.*
[illegible] *Thérapeutique.*
Archives Générales de Médecine.
Bulletin des Académies.
Encyclographie Médicale.
" *des Sciences Médicales.*
Journal des Connaissances Médico-Chirurgicales.
Gazette des Hôpitaux.
" *Médicale.*
Journal de Chirurgie de M. Malgaigne.
Revue Médicale.
Journal de Chimie Médicale.
Journal de Chimie et de Pharmacie.

GERMAN.

Schmidt's Jahrbücher.
Zeitschrift für die Gesammte Medicin.
Muller's Archiv für Anatomie, &c.
Liebig's Annalen der Chemie und Pharmacie.
Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorf's Annalen.

N.B. Every periodical here specified is consulted *directly* by the Editors and his coadjutors.

The absence of inflammatory symptoms in all these cases is remarked upon by MM. Becquerel and Rodier, as if ignorant of M. Hutin's observations.

[The facts which M. Hutin originally cited in support of his opinion were gathered from the history of scrofula, phthisis, and gout. His evidence, therefore, was imperfect until it was fortified by that derived from MM. Becquerel and Rodier's recent investigations, for any one disposed to be sceptical might readily ascribe the increase of blood-fibrin in scrofula, phthisis, and gout, to the inflammatory troubles which often complicate these affections. Hence, we suppose, the little attention which has been paid to M. Hutin previously.]

10.—*On the Distinctions existing between Chlorosis and Anæmia.* By MM. Becquerel and Rodier.

(*Gazette Médicale de Paris.*)

heir investigati[illegible]n Hæmatology, which have been alluded to eceding article, [illegible]ecquer[illegible]r ent[illegible] consider- ngth into the dist[illegible]e) between is and anæmia. These [illegible] set forth under the ng heads:]

uses.—Chlorosis is an a[illegible] o the female between of 15 and 25, and its [illegible] altogether unknown. a, on the contrary, affec[illegible] scriminately, is con- o no particular time of l[illegible] the consequence of other of the many causes which exhaust and debilitate the owers.

Mode of Development.—Chlorosis appears mysteriously, and t assignable cause; not so anæmia.

Symptoms.—Chlorosis is infinitely more marked by nervous de- nent—perverted and otherwise disordered feelings, movements nsations—than anæmia.

hlorosis the skin is of a greenish-yellow tint,—in anæmia it is pale and blanched.

In chlorosis the catamenial function is almost invariably deranged; in anæmia (except in those cases which originate in uterine disease) this is by no means the case.

In chlorosis, as a general rule, palpitation and dyspnœa are far less marked than in anæmia.

4. *Physical Signs.*—The distinctions between the various cardiac and vascular bruits of chlorosis and anæmia are by no means clear. Still it would appear that the bruits at the base of the heart and in the course of the large arterial trunks, which are always present in anæmia, are not so in chlorosis; while, on the other hand, venous murmurs and musical bruits are more frequent in chlorosis than in anæmia.

5. *Composition of the Blood.*—In marked cases of chlorosis, the blood has fewer globules and more water, and a natural or somewhat aug- nted proportion of fibrin and albumen; in confirmed anæmia the l is more watery, the globules diminished, and the albumen and

fibrin unaffected, or the former slightly wanting. In chlorosis these changes are *not* always in relation to the intensity of the general symptoms; in anæmia they always are so related.

6. *Progress and Duration.*—Chlorosis is more uncertain and obstinate in its course than anæmia.

7. *Treatment.*—Chalybeates are indispensable to the cure of chlorosis, but to the cure of anæmia all that is wanted is the suspension of the exhausting influence, and the supply of good food and other natural measures.

ART. 11.—*On the Use of Manganese as an Adjuvant to Iron*, by M. PÉTREQUIN, *followed by some Formularies for its Administration*, by M. BURIN DUBUISSON.

(*London Journal of Medicine;* and *Bulletin Générale de Thérapeutique.*)

M. Pétrequin quotes various authors to prove that manganese is a normal constituent of animal and vegetable tissues, and believes that wherever [illegible] is pr[illegible] appreciable [illegible]tity, manganese coexis[illegible] with it. Hence [illegible] s succeed in blood-disea[illegible] M. Pétrequin has observ[illegible] ses of chlorosis, which have resis[illegible] iron as obstinately as [illegible] ected with cancer or organic [illegible]generation. Other ca[illegible] fter deriving a certain amon[illegible] benefit from iron, rema[illegible]y. Others again appear cur[illegible] iron, but the cure is not [illegible]nent. The remedy required in [illegible] cases M. Pétrequin finds to be manganese. He does not give it or iron alone, but combines them.

It is especially in *diseases of the blood* that ferro-manganic medicines are useful. They have a special action on the vascular apparatus, the formation of the blood, and on the circulating fluid itself. T[illegible] do not act merely as tonics or astringents; but are regenerator[illegible] the blood. They have succeeded admirably in anæmia follow[illegible] hæmorrhage, operations, polypi, metrorrhagia, &c.; also in the chloro-sis attending puberty, which is a more common disease than is generally supposed, and occurs even in males. M. Pétrequin has also frequently found the combinations of iron with manganese of benefit in the diseases of women at the critical period. He has often seen, in these subjects, *metrorrhagia*, accompanied with an aspect of the surface which would lead to the suspicion of organic uterine disease: the hæmorrhage, however, was but a complication, and the patients, apparently in a hopeless state, have recovered under the use of ferro-manganic preparations, conjoined with tonics and ergotine.

In *amenorrhœa* and *dysmenorrhœa*, the patients often imagine that they require to be bled; but care must generally be taken not to comply with this request. M. Pétrequin has more than once seen cases of amenorrhœa with severe chlorosis, in which it has not been desirable to hasten the appearance of the catamenia,—the consequent loss of blood aggravating the disease. The general state of health must here be carefully attended to. Œdema of the lower limbs sometimes occurs in these cases; but it is a less severe complication than when it attend[illegible]

metrorrhagia. It often disappears, as the patient recovers, under the use of iron and manganese.

These medicines are no less efficacious in the treatment of *anæmia* resulting from prolonged intermittent fevers, prolonged suppuration, strumous, syphilitic, or cancerous affections, phthisis, &c. Pills and the syrup of the iodide of manganese and iron are preferable in these cases.

In all these cases, the ferro-manganic preparations do not merely act on the stomach and nervous system, but they are absorbed, and assist in the formation of hæmatosine and new blood-globules, so as to restore the blood to its normal condition. Their effect in this way is greater than that of iron alone.

In the *functional affections of the heart* connected with chlorosis and anæmia, and which must not be mistaken for organic disease, a combination of iron and manganese, with digitalis and other moderators of the heart's action, is advantageous. The same remark applies to the ...*nal disorders of the lungs*, attending the same constitutional ...

...*rdered states of th*... ...ately con...ted with ...f the blood. M. P... ...manganic ...tions succeed well in ... ...complicated with ...is. He, as well as M. G... ...d that iron is here ...olerated when combined ... He has also seen ... from the use of iron wit... ...any cases of *dyspep*-... *tralgia*, and *gastro-enteral*... ...fections of the diges-...ans are often the result of ... ...d, where stomachics ...chona have failed, iron has often been found (especially the ...te, by some English physicians,) to be of service. Gastrodynia ...ating chlorosis has often yielded to the use of ferro-manga-... water, and to pills of carbonate of iron and manganese.

...*ervous affections connected with exhaustion* from venereal ex-...manism, rapid growth, &c., as well as in leucorrhœa, diabetes, &c., M. Pétrequin has a high opinion of these medicines. He is continuing his researches on their action in certain cases of sterility from asthenia, and in some hyposthenic affections of the scalp, such as early baldness, alopecia, &c.

M. Pétrequin has confined his observations to a limited number of the ferro-manganic preparations; and has made many observations before publishing the formulæ which he finds most useful. Having found, even at an early period, that the medicines were liable to adulteration, he has availed himself of the assistance of competent pharmaceutists. Since the publication of his first memoir, in 1849, these medicines have been extensively used in the south of France and ...eign countries.

...e formulæ are few, and correspond to the preparations of iron ...ally used in France. They are: 1, *Pills* of carbonate of iron ...anganese, or of iodide; 2, *Lozenges* of lactate of iron and man-...e; 3, *Syrups* of lactate or of iodide of iron and manganese; ...rro-manganic *chocolate*; 5, *Effervescing solution* of iron and ...anese.

...as been observed that manganese not only preserves water, but

purifies that which has undergone change (Martin-Lauzer). Ferro-manganic waters (of which there are many in France and other parts of the continent) can be preserved and carried to a distance;—which cannot generally be done with simple ferruginous waters.

M. Pétrequin commences by giving the powder of iron and manganese, with some vinous drink; he then administers two pills daily, one before breakfast and one before dinner, replacing them soon by the lozenges. The syrups and chocolate complete the treatment. He gives the medicines at meal time. The syrup he gives before breakfast, in doses of a teaspoonful; and he finds it useful to administer directly after it some infusion of centaury, or of camomile flowers and orange.

Large doses are unnecessary and useless; for they are liable to produce irritation of the stomach and exhaustion of the nervous system, and the reparation of the blood is slow and progressive, and cannot even were it desirable, be effected rapidly. Besides, the iron and manganese are not absorbed in any greater quantity, if large doses are given.



[illegible]ESE AND IRON.

M. Burin-Dubuisso[illegible] who prepared most of the ferro-manganic combinatio[illegible]I. Pétrequin, has published an interesting *brochure*, in wh[illegible]s the necessary details relating to the subject. The following [illegible]læ are extracted from it.

Powder for Effervescing Solution of Manganese and Iron.—Take of coarsely powdered bicarbonate of soda, 20 parts; tartaric acid, 25 parts; powdered sugar, 53 parts; finely powdered sulphate of iron, 1½ part; finely powdered sulphate of manganese, ¾ parts: mix carefully, and keep in well-stopped bottles. A teaspoonful is mixed [illegible] each glass of wine and water drunk during meal time.

Pills of Carbonate of Iron and Manganese.—Take of pure crystallised sulphate of iron, 75 parts; pure crystallised sulphate of manganese, 25 parts; crystallised carbonate of soda, 120 parts; honey, 60 parts; water, a sufficient quantity. Pills of 20 centigrammes (3 grains) are made; they keep easily, without becoming oxidised, in well-closed vessels. From two to four are given daily.

Ferro-manganic Chocolate. One part of carbonate of iron and manganese is first mixed with four of sugar, and divided into large lozenges; of these, 100 parts (grammes) are mixed with 500 of chocolate paste, in the preparation of which 100 parts of sugar have been left out. This will make 800 lozenges, each of which contains about 3 centigrammes (nearly half a grain) of carbonate of iron and manganese. The chocolate decomposes the hydrated carbonate of manganese and iron of the saccharate into hydrated sesquioxide of iron and manganese; there is no metallic taste.

Syrup of Lactate of Iron and Manganese.—Take of lactate of iron and manganese, 4 parts; powdered sugar, 16 parts; rub together, and add of distilled water, 200 parts; dissolve rapidly, and pour into a matrass over a water-bath, containing 384 parts of broken sugar; filter the solution. This syrup contains about 15 parts of lactate

iron and 5 of lactate of manganese in 3000 parts. One or two spoonfuls are taken daily.

Lozenges of Lactate of Iron and Manganese are made by adding 20 parts of the lactate to 400 of fine sugar, with a sufficient quantity of water. The mass will make 840 lozenges; of which six or eight are taken daily.

Syrup of Iodide of Iron and Manganese.—M. Burin-Dubuisson forms a solution of iodide of iron and manganese, in the proportion of one part by weight to two of water: the proportion of the salts is about three of iodide of iron to one of iodide of manganese. Six parts of this are mixed with 294 of simple syrup; of this, M. Pétrequin gives one or two spoonfuls daily.

Pills of Iodide of Iron and Manganese.—Take of the officinal solution prepared by M. Burin-Dubuisson, 16 parts (grammes); honey, 5 parts; some absorbent powder, 9½ parts. Divide into 100 pills. The honey and the solution are first mixed, and evaporated at first rapidly, then more slowly, to 10 parts. Then add the powder, and divide the mass into four parts, which must [illegible] olled in powder of iron reduced by hydrogen; each of these [illegible] an iron [illegible] te into 25 pills, and again rolled in [illegible] are covered with a layer of tolu, accordi [illegible] cess.

All these preparations [illegible] efully. M. Burin-Dubuisson has ascertaine [illegible] salts of manganese frequently contain copper [illegible] hence insists on the necessity of calcining the sulpha [illegible], twice, or more frequently, at a dark red heat, and of carefully [illegible] ing the solution.

(D.) RELATING TO ACCIDENTAL PRODUCTIONS.

ART. 12.—*On Fatty Degeneration.*

(1. The *Lancet.* 2. *Schmidt's Jahrbuch.*)

[Mr. W. Frederick Barlow has been publishing in full in the pages of the Lancet the paper on Fatty Degeneration, which he read at the Medical Society of London, at the beginning of the past year, and the abstract of which will be found in p. 269 of our last volume. We would gladly have reprinted these views in the more extended form they have thus received, but we are obliged, for want of space, to content ourselves for the present with the report referred to.

In *Schmidt's Jahrbuch*, also, we find in abstract a long inaugural dissertation by B. S. Shultze, entitled *De adipis genesi pathologica*, and this we have looked over in the hope of finding something which would throw new light upon the interesting problem of fatty degeneration. But we have been sadly disappointed. It is minute and mechanical enough, but, so far as we can see, barren of a single spark of the philosophical spirit which shines throughout the papers of the last-named writer.

More light is to be got from a surgical case of Mr. Erichsen's, in which, on amputation, there proved to be fatty degeneration of the muscles of the leg. This case, it will be seen, quite accords with the

idea that this state is truly one of *degeneration*, for we see, among other things, that the part which had undergone the diseased change was insufficiently supplied with blood and had been long disused—both of which circumstances are of course inimical to its healthy growth and life. We copy the case as exhibiting more than one point of interest in relation to the concomitants of fatty degeneration.]

Eleanor Coles, aged 48, a married woman, of leuco-phlegmatic habit and delicate constitution, began to suffer, in 1838, from a series of abscesses in the right foot. The first formed under the great toe, and, after a time, healed; when others in various parts appeared, and went through a similar course, leaving, however, several sinuses, which did not heal. In June, 1850, a piece of bone came away for the first time, and since then, numerous small portions of the tarsal and metatarsal bones have necrosed and been expelled. Latterly, the condition of the foot has become much worse, the inflammation has extended to the ankle joint; she has suffered very severe pain, which, for the last month, has quite confined her to her couch. During this long illness, extending over twelve years, she has always previously been able to move about, more or less, though she has often spent [illegible] out of the house. The pain has often been very g[illegible] constant profuse suppuration has been kept up. The d[illegible]wever had many periods of alternate improvement and [illegible]

Admitted July 13, [illegible]he whole foot and ankle are much swollen, and the skin exhibits in parts an erysipelatous redness, while in others it is of a dusky and livid hue. There are several unhealthy ulcers, the sinuses connected with which lead down to diseased bone. The foot is extended, and, when forcibly flexed, a grating sensation is produced between the bones of the ankle-joint. She is pale, feeble, and much out of health. Mist. Quin. ℥j; ter. die sumend. Full diet, with porter.

21st.—Her general health has improved since admission, and the degree of inflammation around the ankle has somewhat subsided; but, as there appears no probability of a cure ever being effected, it has been decided to remove the leg. Mr. Erichsen accordingly performed a double-flap amputation in the usual manner. Previous to the operation, it had been observed that her calf was not nearly so much wasted as is usual after long disease; and, on cutting through it, the muscles were found to have lost nothing of their healthy size and contour. The appearance of their section was, however, very peculiar: instead of the red brown colour of muscular tissue, it presented a pale fawn-coloured, and almost waxy aspect. This change was the most complete in the large superficial muscles,—the deeper ones still exhibiting some traces of their original structure. But little hæmorrhage took place, and few ligatures were required. Six hours after the amputation the stump was dressed with sutures and plaster as usual.

24th.—She has been allowed a nutritious diet, with four ounces of wine daily, and is progressing favorably. The flaps have not united by the first intention, but granulations are now freely forming, and there is healthy suppuration. The posterior flap is slightly inflamed,

28th.—There is less of inflammation present, and the amount of discharge is diminished; the process of healing is proceeding very favorably.

29th.—In the night an attack of hæmorrhage, to about two ounces, occurred; it was however easily checked by the application of cold, and no recurrence took place.

August 12th.—During the last fortnight she has progressed very satisfactorily. Her general health has much improved, and the stump almost entirely healed. Her appetite is good, tongue clean, pulse of good volume.

In examining the foot after removal, the bones composing the ankle-joint were found to be denuded of cartilage, and in a carious condition; the whole tarsus was also extensively diseased. The superficial muscles of the sole of the foot exhibited the same peculiar appearances as those of the calf had done. A careful microscopic inspection confirmed the opinion at first formed, that their condition was one of advanced fatty degeneration. The bones of the leg did not appear to possess any peculiarity of structure.

In this case the [illegible] disuse of the member had doubtless occasioned the condition in [illegible] ; yet why it should have produced this pe[illegible] structure, and not a simple atrophy, it is difficult [illegible] nt's constitution has probably had a share in this [illegible] of those stout and flabby persons whose tendency [illegible] es, is to "degenerate in quality" rather than to "[illegible] ntity." The disease, however, does not yet appear to have [illegible] the tissues generally, as the circumference of the cornea is perfectly clear, and the heart's impulse tolerably forcible.

The presence of the arcus senilis, it is well known, offers no obstacle to the performance of the operation for extraction of cataract, and the above instance affords another proof, that structures in a state of fatty degeneration heal, when wounded, just as readily as more healthy ones.

ART. 13.—*New views concerning the Nature and Causes of Tubercular Deposits.* By MATTHEW TROY, M.D. (U.S.)

(*American Journal of Medical Science.*)

[According to Dr. Troy, "defective action of the skin is the precise cause of tuberculosis. In tuberculous subjects there is *a peculiarity*, a cognisable anatomical difference of structure from the healthy skin. It seems to be this, that the skin is harsh and dry. Let its texture be fine and white, or coarse and dark, it is uniformly dry and inelastic. It is easily washed clean; dirt does not closely adhere to it. In a word, the *sebaceous secretion is deficient.*"

Hence the sebaceous matter accumulates in the body, and this sebaceous matter is nothing more or less than tubercle.

Dr. Troy employs the usual arguments for showing, that a faulty action of the skin has much to do in the matter which he has taken in hand; but upon the vital question of the identity of sebaceous matter and tubercle, which is to be solved by mechanical and not speculative

evidence, he has less to say than were to have been desired. Upon this question, he says:]

The sebaceous secretion of the skin has not been analysed with sufficient accuracy to determine its precise nature: "It is oil, but not oil alone;" and as little is known of the nature of the solid constituents of the other secretions of the skin. It is, therefore, impossible to demonstrate chemically their identity with tuberculous matter. But enough is known to show a very strong probability of this identity.

Tubercle consists for the most part of minute granules, which either consist of, or are very easily converted into, fatty matter.

"Every gradation may be found between euplastic and aplastic deposits; the cells and fibres which are the representatives of organisation, diminishing in number and completeness, and the material becoming more granular and amorphous, or abounding in fat *globules* in proportion as the deposit is degraded, until in opaque, crude, or yellow tubercle it is altogether aplastic, *consisting of a mere aggregation of granules and fat globules*, with mere traces of the remains of cells."—(William's 'Principles of Med.,' p. 300.)

Here at least we see one of the constituen[illegible] this secretion in the deposit; and [illegible] only [illegible] is known with certainty. It is very probable that this [illegible] of the sebaceous secretion can at any time be detected in [illegible] phthisical patients:

"The fibrine of the [illegible] its under the microscope a predominance of granular *ma[illegible] globules*."—*Id.*, p. 113.

[Dr. Troy afterwards states his views succinctly in the following summary, and this we append in order that he may, as far as possible, carry his own meaning in his own words.]

"I think," says he, "I have shown that the nature and importance of the secretion of the skin are sufficient to give rise by its deficiency of suspension to the accumulation of tuberculous matter in the blood; that in those individuals in whom consumption is hereditary, there is often a congenital deficiency of the sebaceous follicles; that the disease can at any time be produced or aggravated by causes which depress their action; and prevented or relieved by causes which exalt it; that the only well-ascertained product of the secretory action of these follicles is found in large amount in tubercle; and that it is deposited in precisely such situations as we would be led to suppose, upon general principles of physiology, that the retained secretions of the skin would be."

SECT. II.—SPECIAL PATHOLOGY.

(A.) DISEASES OF THE NERVOUS SYSTEM.

ART. 14.—*On the Medical Treatment of Insanity.* By Dr. FORBES WINSLOW, F.R.C.P.E.

(The *Lancet.*)

[The following extracts from Dr. Winslow's second Lettsonian Lecture exhibit a clear sketch of the practice of the lecturer in the medical treatment of insanity:]

"It is necessary that we should, before being able to appreciate the effect of medical treatment, entertain just and enlightened views as to the CURABILITY OF INSANITY. I now speak from a somewhat enlarged experience, from much consideration of the matter, and I have no hesitation in affirming that, if brought within the sphere of medical treatment in the earlier stages, or even within a few months of the attack, insanity, unless the result of severe physical injury to the head, or connected with a peculiar conformation of chest and cranium, and an hereditary diathesis, *is as easily curable as any other form of bodily disease for the treatment of which we apply the resources of our art.* It is a lamentable error to suppose, and a dangerous, a false, and unhappy doctrine to promulgate, that the disordered affections of the mind are not amenable to the recognised principles of medical science. I again declare it to be my positive and deliberately formed opinion, that there are few diseases of equal magnitude so susceptible of successful medical treatment in the incipient form as those implicating the normal action of thought. The vast amount of incurable cases of insanity which crowd the wards of our national and private asylums, is pregnant with important [illegible]ths. I[illegible] these unhappy persons—these lost and ruined [illegible]ds—[illegible] the sad, melancholy, and lamentable results of eith[illegible] all efficient curative treatment at a period when it m[illegible] the onward advance of the cerebral mischief, and [illegible]upon her seat; or of the use of injudicious and u[illegible]es under mistaken notions of the nature and pat[illegible]ase. In no class of affections is it so imperatively necessary to inculcate the importance of early and prompt treatment as in the disorders of the brain affecting the manifestations of the mind. I do not maintain that our curative agents are of no avail when the disease has passed beyond what is designated the 'curable stage.' My experience irresistibly leads to the conclusion that we have often in our power the means of curing insanity, even after it has been of some years' duration, if we obtain a thorough appreciation of the physical and mental aspects of the case, and perseveringly and continuously apply remedial measures for its removal; but I cannot dwell too strongly upon the vital necessity of the early and prompt exhibition of curative means in the incipient stage of mental derangement:

> 'Principiis obsta: sero medicina paratur
> Cum mala per longas convaluêre moras.'—OVID.

"In 90 per cent. of the cases of acute mania there is found in the brain and its meninges a state of sanguineous congestion, particularly of the hemispherical ganglia, combined with alterations in the grey nervous matter. In forming an opinion of the actual pathological condition of the cerebral substance, we should remember that, particularly in public asylums, it is a rare occurrence for recent cases to be admitted; that the acute and sub-acute active cerebral conditions have subsided, and the disease has assumed a chronic form before the patient is examined and placed under treatment; consequently many deductions recorded by pathologists have been based upon the study

of chronic, and not of acute, mania. A large per centage of the cases, before admission into our national asylums, have passed through the primary and acute stages, and have probably been subjected to medical treatment. This fact must never be lost sight of in forming our opinion, not only of the nature of the disease itself, but of the medical treatment necessary for its cure. In private practice the acute forms of insanity are often met with; but even with the advantages which the physician can command, of investigating the earlier stages of deranged mind, he often discovers that the mental affection has been allowed to exist and slowly progress for a considerable period, no treatment, either medical or moral, having been adopted for its removal. In the incipient form of insanity, particularly when it manifests itself in plethoric constitutions, had been sudden in its development, is the result of physical causes, and is connected with the retrocession of gout, or is rheumatic in its character, there can be no doubt the nature of the changes induced in the brain is more allied to that of inflammation than that of nervous exhaustion. The attacks from the slow and insidious operation of moral causes, are less likely to be accompanied by active symptoms. In [illegible]y instances the maniacal excitement is *astheni*[illegible]*ic* in its character, resembling the delirium of the last stag[illegible] fever.

"In regard to the tre[illegible] mania, the important and much litigated question at [illegible] practitioners of all countries, is that relating to the p[illegible] depletion. Need I direct your attention to the conflicting [illegible] contradictory opinions entertained by eminent writers on this important and much-vexed therapeutical point? Whilst some practitioners of great repute and enlarged experience fearlessly recommend copious general depletion for the treatment of insanity, and refer to cases in which this practice has been attended with the happiest results; others, equally eminent, and as much entitled to our respect, denounce the lancet as a most fatally dangerous weapon, and shudder at the suggestion of abstracting, even locally, the smallest quantity of blood. In avoiding Scylla, we must be cautious of being impelled into Charybdis. The error consists in a vain effort to discover a uniform rule of treatment, and attempting to propound some specific mode of procedure adapted to all cases. He who maintains that bloodletting is never to be adopted in the treatment of mania, without reference to its character, its origin, the peculiar constitution of the patient, and the existence of local physical morbid conditions, which may be materially modifying the disease, and giving active development to delusive impressions, is not a safe practitioner. Neither would I confide in the judgment of the physician who would, in every case of violent maniacal excitement, attempt to tranquillise the patient by either general or local depletion.

"In attacks of insanity, when the symptoms are acute, the patients young and plethoric, the habitual secretions suppressed, the head hot and painful, the eyes intolerant of light, the conjunctivæ injected, the pupils contracted, the pulse rapid and hard, and the paroxysm sudden in its development, *one* general bleeding will often arrest the progress of the cerebral mischief, greatly facilitate the application of other remedies, and ultimately promote recovery. In proportion as the

symptoms of ordinary insanity approach those of phrenitis, shall we be justified in the use of general depletion. Although it is only occasionally, in instances presenting peculiar characteristic features—cases occurring in the higher ranks of life, where the patient has been in the habit of living *above par*, and is of a sanguineous temperament—that we are justified in having recourse to the lancet, there is a large class of recent cases presenting themselves in the asylums for the insane, both public and private, in the treatment of which we should be guilty of culpable and cruel negligence, if we were to omit to relieve the cerebral symptoms by means of the local abstraction of blood. It is, alas! the fashion and caprice of the day to recklessly decry the application of cupping-glasses or of leeches in the treatment of insanity, in consequence, I think, of the slavish deference shown to the opinions of a few French pathologists of eminence, who have, by their indiscriminate denunciation of *all depletion*, frightened us into submission, and compelled us to do violence to our own judgment. The local abstraction of blood is, in the hands of the discreet and judicious practitioner, a powerful curative agent; and yet it is the practice of some men—and [illegible] too, of position—to discard altogether the remedy.

"I will briefly refer to the [illegible]ch the local abstraction of blood will be found most [illegible] regard be had to the temperament, constitutiona[illegible] the local circumstances modifying the character of t[illegible]nity, when the exacerbations occur at the menstr[illegible] *varibus*, leeches to the vulva and thighs, with the use of the foot-bath, and the exhibition of aloetic purgatives, will be attended by the most favorable results. In irregular and obstructed menstruation, the local abstraction of blood will be very serviceable. In suppressed hæmorrhoids, leeches to the neighbourhood of the sphincter ani will greatly benefit in unloading the hæmorrhoidal vessels, and relieve the brain of undue excitement. In cases of nymphomania, leeches to the vulva are indicated, and have been known to greatly benefit. In cases of intermittent insanity, the paroxysm may often be cut short by relieving the overloaded state of the vessels of the head by means of cupping, or the application of leeches. In some instances, I have tried Dr. Wigan's plan, and have applied leeches to the Schneiderian membrane, particularly for the treatment of insanity of early life, and connected with conduct evidently the effect of cerebral irritation. I have seen this mode of procedure of essential benefit in persons of plethoric constitution and of sanguineous temperament. Occasionally the insanity is found to be associated with active visceral disease, or with hypertrophy, and other affections of the heart. Under these circumstances, when there exists great tenderness over the region of any of the visceral organs, and we are satisfied, by a careful stethoscopic examination, that hypertrophy of the heart is present, leeches applied over the seat of the local mischief, conjoined with other appropriate treatment, will materially aid us in subduing the maniacal affection. In cases of illusions of hearing or of vision, it will often be necessary to apply leeches behind the ears, or over the superciliary ridges. I have known this practice entirely remove the morbid allusions which had been embittering the person's life.

"But apart entirely from the local affections to which I have referred, for the treatment of idiopathic insanity, apparently without any complications, or modified by any of the associated diseases, the careful and temperate local abstraction of blood, when general depletion is inadmissible, will often materially shorten the duration of an attack of insanity, and restore the mind to a healthy condition. I am anxious to record my favorable opinion of this mode of treatment, because I have witnessed so many sad results from an opposite timid and reprehensible neglect of the means placed within our power for the treatment of the varied forms and degrees of mental derangement. Sad consequences have undoubtedly followed the indiscriminate use of depletory measures; the presence of violent mental excitement has occasionally led the practitioner to the conclusion that the disease was of an active character; and in the attempt to allay the undue cerebral excitement by means of antiphlogistic measures, the patient has sunk into incurable and hopeless dementia. But whilst recognising an *anæmic* class of cases, where great excitement is often associated with loss of nervous and vital power, we must be cautio[illegible] in permitting serious disease to be creeping stealthily on in th[illegible] brain, no effort being made to relieve the congested [illegible]bral vessels or inflamed tissue, until serious disorganisation ha[illegible]e in the delicate structure of the vesicular matter, and th[illegible] for ever lost. In the treatment of acute mania, the rem[illegible] importance to cautious depletion is that of *prolonged hot* [illegible] Dr. Brierre de Boismont, of Paris, at whose excellent institu[illegible]rst witnessed the application of this remedial agent, the profession is indebted for reviving a practice which had long fallen into disrepute. In treatment of acute mania, the prolonged hot baths will be found of the most essential service. Dr. Brierre de Boismont has recorded the history of 61 of 72 cases that were subjected to this mode of treatment. Three fourths of this number were cured in a week, and the remainder in a fortnight. The patients remain from eight to ten, and fifteen hours in warm baths, whilst a current of cold water is continually poured over the head; the temperature of these baths is from 82° to 86° Fahr.; the effusions 60° Fahr. Among the therapeutic effects of these baths, Dr. Brierre de Boismont reckons a diminution of the circulation and respiration, relaxation of the skin, alleviation of thirst, the introduction of a considerable quantity of water into the economy, an abundant discharge of limpid urine, a tendency to sleep, a state of repose. This mode of treatment is said to be ineffectual in cases of periodic intermittent mania, in mania beginning with great mental impairment, or associated with epilepsy or general paralysis. The result of my own experience of this plan of treatment has produced a very favorable impression upon my mind, and I think it is entitled to a fair trial in all our public asylums where they admit acute and recent cases.

"In some forms of acute mania it is desirable, as a substitute for depletion, to diminish the activity of the circulation by the exhibition of nauseating doses of the tartrate of antimony; it may be serviceably combined with the tinctures of digitalis and hyoscyamus. This remedy, however, requires careful watching, as it often has been known to suddenly reduce the vital powers to a low ebb, and extinguish life.

It will be found beneficial in proportion to the recent character of the case, and the positive activity of the cerebral circulation. The tincture of digitalis was formerly in great repute as an anti-maniacal remedy; the experience of late years has not encouraged us in administering it in the doses prescribed by some of the old writers; nevertheless, it is a useful agent, and occasionally proves a valuable auxiliary in the hand of the practitioner who carefully watches its operation.

"For the cure of the acute forms of insanity the douche bath has been much lauded; but this remedy is now rarely used in British asylums. I have occasionally seen benefit derived from its exhibition, but it requires great caution in its use. A patient has been subjected, whilst in a paroxysm of acute delirium, to the douche bath, and has sunk almost immediately into incurable idiocy! The physical shock has occasionally been known to produce a good moral impression. For illustration: a patient imagined himself emperor of the world, and would not allow any one to address him by any other title. The immediate application of the douche bath destroyed his idea of royal dignity, and [illegible] willing to admit that he had never been, nor was at any time, a rega[illegible]rsonage. [illegible] subsequently the delusive impression returned in all its [illegible]ce; the douche bath was again had recourse to, and a[illegible] the morbid impression vanished; by a series of baths h[illegible] to sanity, and after his complete recovery, when the part[illegible]ase were placed before him, he observed, 'Why did you [illegible] and beat this nonsense out of my head? I wonder how y[illegible] borne with my folly, for I have been guilty of such cont[illegible] arrogance and obstinacy.' As a substitute for the douche, the shower bath is often used with great benefit, particularly in certain forms of melancholia, associated with nervous depression and general debility. In cases of melancholia, or other kinds of chronic insanity connected with a congested state of the liver, the nitro-muriatic bath will occasionally do much good. In a few instances I have noticed marked benefit from the use of Bertolini's sedative bath, composed of henbane two pounds, and equal parts of hemlock, and cherry-laurel leaves, well infused in a sufficient quantity of hot water. But the simple hot bath in certain conditions of the nervous system, particularly in some forms of suicidal mania, is of the utmost benefit. A warm bath a short period before retiring to rest, bathing the head at the same time with cold water, particularly if the scalp be unnaturally hot, will often ensure a quiet and composed night when no description of sedative, however potent its character and dose, would influence the system.

"In the early stage of insanity, and throughout its whole course, the bowels are often in an obstinately constipated condition. The concentration of nervous energy in the brain appears to interfere with that supply which should proceed to other structures: consequently there appear to be a want of healthy sensibility in the mucous membrane of the bowels, and an interruption to the peristaltic action of the intestinal canal. There is no class of agents which act so certainly and effectually in relieving the mind when under the influence of depressing emotion, as cathartics. The ancients considered hellebore as a specific in certain forms of melancholia. In the hands of

modern practitioners it has not been found to merit the high encomiums which have been passed upon it. It is important in every case of insanity, but particularly in the acute stages of mental derangement, to act powerfully upon the bowels by means of a succession of brisk cathartics. The bowels are often found gorged with fæcal matter, and immediate relief often follows the administration of two or three doses of calomel and colocynth, or of croton-oil. It will often be necessary to assist the operation of the cathartics by means of enemata. In hysterical and some other forms of insanity there is always a disposition on the part of the patient resolutely to resist the calls of nature, and, knowing this peculiarity, we must carefully watch the condition of the bowels, otherwise serious mechanical obstructions may ensue, followed by intractable diseases of the rectum. Insanity is often associated with gastric and intestinal disease, with an irritable condition of the mucous membrane of the alimentary canal; and, in such cases, although it is important to relieve the bowels and prevent them from being constipated, we must bear in mind that the injudicious exhibition of irritating drastic cathartics may aggravate the mental disease, by increasing the gastric and intestinal irritation, and thus do permanent and irremediable mischief. Much injury may arise from the indiscriminate [illegible] administration of cathartics. In insanity associated w[illegible]ructions, it will be necessary to exhibit the class of [illegible] to act specifically upon the lower bowel; consequ[illegible]tics, such as the compound decoction of aloes, are [illegible]t service in these cases. In plethoric habits, when the[illegible] marked determination of blood to the head, no medicine will relieve so speedily as active doses of the compound powder of jalap.

"In the treatment of insanity, the class of medicines termed *sedative* play an important part. If exhibited with judgment, the most gratifying results often follow *their continuous and persevering administration*. The sedative treatment of insanity is a subject of itself, and I quite despair of touching even upon the confines of the many interesting and important points involved in the consideration of this division of my lecture. In insanity unassociated with active cerebral circulation, congestion, or paralysis, or after the head symptoms have been relieved by the local abstraction of blood and the administration of appropriate medicine, the exhibition of sedatives will be followed by the most beneficial results. In recent cases they are generally inadmissible, except in delirium tremens and puerperal insanity, and other forms of derangement analogous in their pathological character and symptoms to these affections. In chronic insanity, in melancholia unconnected with abdominal repletion, or visceral disease, the persevering use of sedatives in various combinations will often re-establish sanity, when no other course of treatment is likely to be successful in dispelling the illusive impressions, or raising the drooping and desponding spirits. Battley's solution, the tincture of opium, the meconite, acetate, and hydrochlorate of morphia, the preparations of hyoscyamus, conium, stramonium, camphor, hops, aconite, ether, chloroform, hydrocyanic acid, Indian hemp, are all of great and essential service if administered with judgment and sa-

gacity. In suicidal insanity, when local cerebral congestion is absent, and the general health and secretions are in good condition, the meconite and hydrochlorate of morphia often act like a charm, if *uninterruptedly and perseveringly given* until the nervous system is completely under its influence. I have witnessed the most distressing attacks of suicidal mania yield to this treatment, when every other system has failed. I could cite the particulars of numerous cases of this form of insanity radically cured by the occasional local abstraction of blood from the head, the administration of alteratives, the warm bath, and sedatives. In the use of this powerful curative agent, our success will often depend upon a *ready adaptation of the kind of sedative to the description of case in which it may be deemed admissible, and a judicious combination of various kinds of sedatives.* I do not think we pay sufficient attention to such combinations. I have often seen an apparently incurable and unmanageable case yield to several kinds of sedatives combined, when it resisted the operation of any one or two. The extract of conium is often of service in cases of insanity combined with [illegible]lepsy; conjoined with mineral tonics, conium is occasionally of be[illegible], particularly in melancholia connected with chronic disease of the digest[illegible]h neuralgia. In cases of uterine irritation, I hav[illegible] result from the combination of hops, camphor, [illegible] In illusions of vision, belladonna, commencing w[illegible] doses, will be found a useful remedy. In insani[illegible]th dysmenorrhœa, the combination of camphor with [illegible]ium, or conium, may be given with great advantage. The hydrochlorate of morphia, in union with dilute hydrochloric acid, is said to be useful in cases where the sedative treatment is desirable. I am often in the habit of exhibiting sedatives and tonics in a state of combination, particularly conium with iron, opium with quinine, or with the infusion or compound decoction of cinchona. In debility, with irritability of the nervous system, accompanied by restlessness, Battley's solution, with the preparations of cinchona, will often prove of great benefit. The tincture of sumbul I have occasionally administered, and I think with advantage, in paroxysmal or convulsive forms of insanity. I have given to the extent of one to two drachms for a dose. In hysterical derangement, the tincture of Indian hemp will occasionally allay the excitement, and produce sleep more rapidly than any other form of sedative. The valerianate of zinc has not answered the expectations of those who have spoken so highly of its medicinal virtues. Tincture of opium with camphor, and the tartrate of antimony, is an excellent combination in cases of doubtful cerebral congestion. Tincture of hops in doses of from one to four drachms, it will be necessary to give when no other formulæ are admissible. As a mild form of sedative, compound ipecacuanha powder is occasionally recommended; but a good substitute for Dover's powder is a pill composed of opium, ipecacuanha, and soap.

"In treating the more chronic forms of insanity, particularly melancholia, it will be essential to bear in mind that they are difficult of cure, because, owing to the slow, obscure, and insidious character of the disease, the mental affection has been of some duration before the

attention of the practitioner has been directed to its existence. As this form of derangement generally exhibits itself in trifling perversions of the affections and propensities, leading to little acts of extravagance and irregularity of conduct, associated with great depression, we often find the attack has existed some years before a necessity is felt for any medical advice or treatment—perhaps a suicidal propensity has manifested itself, this being the first apparent overt act of the insanity.

"It is necessary, before suggesting any course of treatment in melancholia, to ascertain whether any latent visceral disease be present. Occasionally the local irritation will be found either in the liver, the stomach and bowels, and in women the uterine functions are frequently disordered. In the religious and other forms of melancholia in females, the delusive ideas are often associated with uterine irritation; and under such circumstances, if actual physical derangement of an active character exists in this organ, the best treatment will be, the application of leeches to the neighbourhood of the uterus, combined with warm hip-baths, se[illegible], and mineral tonics. In cases of melancholia, the digestive functions are often much vitiated, the circulat[illegible]id, the skin cold and flaccid, and these symptoms being co[illegible] a general loss of physical tone. Such patients require [illegible], good air, gentle exercise, and occasional stimuli. W[illegible] symptoms are combined with an inactive state of the bo[illegible] often administered the compound tincture of guaiacum with great benefit. It is important to watch the particular features in these cases, and to improve the general health by the exhibition of mild alteratives and vegetable tonics, with alkalies. I have occasionally administered, with success, in this form of insanity, apparently associated with an abnormal condition of the nutrition of the brain, cod-liver oil, with preparations of iron.

"My time will not admit of my submitting for your approval the treatment best adapted for those forms of mental disease associated with an atrophied or softened condition of the nervous matter. I think more is to be done for the cure of these cases than the writings of medical men would lead the student to suppose, particularly if the disease be seen and subjected to treatment in the early stages. I have recorded the details of several instances of cerebral disease, exhibiting all the legitimate features of ramollissement, and yielding to the persevering administration of the preparations of iron, phosphorus, zinc, and strychnia, combined with generous living, and the occasional application of a leech behind the ear, should indications of cerebral congestion be present.* I have also derived benefit in these cases from the use of the milder forms of mercurials, associated with cinchona. In cases of impairment of the mind, loss of memory, defective power of attention, occasional paroxysms of *mental* paralysis, unconnected with lesions of the *motor* power, I have found a solution of the acetate of strychnine, and a solution of the phosphate of strychnine, of great advantage.

"In some chronic forms of insanity, in dementia, and persistent

* "In the year 1830, twenty-two years ago, my first observations on 'Ramollissement of the Brain' were published in the 'Lancet.'"

monomania, connected, as it was supposed, with morbid thickening of the dura mater, and with interstitial infiltration of the membrane, as well as with exudations upon its surface, I have occasionally had the head shaved, and have perseveringly rubbed over the scalp a strong ointment of the iodide of potassium combined with strychnine. In other instances I have kept the head painted with the mixture of iodine. I have seen marked benefit from this mode of treatment. In several cases where the mental symptoms were supposed to be associated with effusions of serum, I have ordered the iodine to be applied externally, at the same time exhibiting minute doses of calomel, or mercury-with-chalk, to slightly affect the system: this, conjoined with occasional tonics, diuretics, and stimuli to support the vital powers, and enable the patient to undergo this treatment, is occasionally productive of considerable benefit, in cases apparently placed quite beyond the reach of improvement or cure.

"I have only briefly spoken of two distressing and often unmanageable forms of insanity—viz., of suicidal mania, and of those cases where the patient obstina[illegible]ses to take either food or medicine. In insanity associated with suici[illegible] tendenc[illegible] important to ascertain whether any cerebral congestio[illegible]ch is often the case. A few leeches applied to the head[illegible] an active cathartic, will relieve the local irritation, and o[illegible]he idea of self-destruction. In the absence of any p[illegible] cerebral symptoms, the prolonged hot bath, and the per[illegible]bition of some form of sedative, is the best treatment to [illegible] I have seen the suicidal impulse removed after the admini[illegible]ew doses of belladonna; but the meconite and hydrochlorate of morphia, if given for a sufficient length of time, will, in the great majority of cases, distinct from actual incurable visceral or cerebral diseases, effect a cure. Occasionally the shower-bath, and counter-irritation in the vicinity of the head, will aid us in re-establishing health. Cases sometimes present themselves where the patient determinately refuses to take either food or medicine. This character of case gives those who have the care of the insane much anxiety. The refusal of food may be connected with the determination to destroy life, or it may be associated with delusive impressions. I am inclined to believe that, in the majority of these cases, the symptom is the result of some local mischief remote from the brain, and sympathetically affecting the organ of thought. Upon examination we often find, in these cases, great gastric derangement, obstinate constipation, considerable tenderness upon pressure in the epigastric region, hepatic disease, the tongue foul, breath offensive, and other symptoms of derangement of the chylopoietic viscera. The determination to resist nourishment arises, under such circumstances, from a *positive loathing of food—a want of all inclination for it.* I have seen cases of this description, where it has been deemed necessary, in order to prolong life, to introduce food forcibly into the stomach, speedily cured by the adoption of means for improving the state of the general health and digestive organs. Mild alteratives, vegetable tonics, blisters over the region of the stomach, if the patient complain of pain in that region upon pressure, the warm and shower bath,—is the most successful treatment to adopt in cases connected with obvious

visceral derangement. Instances sometimes occur, where the refusal of food is clearly traceable to a delusive impression—an hallucination of taste, which makes everything appear to the patient bitter, disgusting, and poisonous. The unhappy patient imagines that he is commanded, either by good or evil spirits, not to eat. These unhappy persons must be treated upon general principles, and the remedies be adapted to the peculiar character of each individual case. Under such hallucinations of taste, patients often swallow the most extraordinary articles. The case of a lunatic is recorded, who imagined that his stomach required to be strengthened with iron. He was seized with inflammation of the œsophagus, of which he nearly died. He then confessed that he had swallowed the blade of a knife. After his death, there were found in his stomach seven oxidated lath nails, each two inches and a half long; thirty-three nails, two inches long; forty-nine smaller iron nails and rivets; three pieces of wound-up iron wire; an iron screw, an inch long; a brass image of a saint; part of the blade of a knife; and other articles, amounting in number to 100, and weighing about twenty ounces. It will be neces[illegible] cases like those to which I have been re[illegible] to ascertain whether the determination not to eat is the effect [illegible]ersions or hallucinations of taste.

"The time will only [illegible]uding generally to the importance, as a principle of trea[illegible] administration of tonic remedies, active exercise in th[illegible] to good and generous living. It is rarely necessary, [illegible]nt of insanity, to deprive the patient of animal food. In [illegible] occasionally come under our notice, in which it is necessary, [illegible]me, to enforce a farinaceous diet; but such is not often our duty. Among paupers, insanity is frequently cured by the free use of good animal food, and a generous supply of porter. Even when we are satisfied of the necessity of local depletion, it will often be necessary to give wine, and allow the patient a generous diet.

"There are many other essential points in connection with this important, this vast subject, which I am reluctantly compelled to pass entirely over."

ART. 15.—*On the employment of Opium in Mental Disease, and some allied conditions.* By Dr. FRIEDZ ENGELKEW, of Oberneuland.

(*Journal of Psychological Medicine, and Allgemeine Zeitschrift für Psychiatrie, &c.*)

It will be interesting to our readers, to learn the views of our German brethren upon a practical point, which has particularly engaged attention in England. The author introduces his remarks by a few general observations upon the empirical misuse of medicines; and in the next place gives an historical sketch of his subject. The use of opium for mental maladies, among the ancients, Dr. Engelkew observes, is very doubtful, since we have no written record thereof, and their theories of this class of diseases would be opposed thereby. The first distinct mention of its employment in mental diseases, he informs us, is to be found at the beginning of the eighteenth century, by Dr. Cullew. By Tralles and Wepfer it was given in increasing

doses until sleep was produced. The views of Reil, the author remarks, coincide with those which guide the administration of opium in insanity by the best practitioners of the present day, as seen by the following quotation from that writer's treatise on fever. "In asthenic mania with erethism, not proceeding from any material (organic?) cause, opium administered in full doses from one to four grains, is of most essential service; it diminishes excitement, quiets the undue action of the brain, and causes sleep. Further, it is of great utility in cerebral disturbance from cold, accompanied with pain and spasms."

The writers, whose names we next meet with, are those of Fribourg, Pargeter, Chiarugi, and Friedrich; the latter ranges the authorities into two classes, those opposed to and those in favour of the use of opium in insanity; among the former he enumerates Prichard, Haslam, Hasper, Cox, Neville; in the latter, Chiarugi, Reil, Burrows, who have not, according to the author, sufficiently indicated the contra-indications of its employment. Friedrich's indications for its use are excitement in a depressed state of the cerebral vitality, and the necessity for the prod[illegible] of a soothed state of mind. The influence of Brown's views, Dr. Engelkew rem[illegible] o hinder the use of opium in the cases now spoken of, and de[illegible] mendations of Sydenham, its use was prohibited, and the t[illegible] mental disease was, by so much, prejudiced during part [illegible] nt century. Opium, Dr. Engelkew observes, was formerl[illegible] as the common representative of all narcotics, but later re[illegible] e shown that its narcotic properties are unlike others of the [illegible], while in value it surpasses all others. The mode of action of opium, advocated by the author, is that of those physiologists who consider it to have a twofold action, one local on the nerves of the stomach, the other remotely, on the nervous centres, by absorption into the blood.

In illustration of the effects of opium, the author quotes Reineke's description (in 'Blumenbach's Medic. Bibl.,' bd. 11, § 340,) of the Persian and other oriental opium eaters, and observes thereon, that we may thence learn that opium may be administered in large doses, and for a longer continuance, than is generally admitted. In support of this opinion, Dr. Engelkew cites several of his own cases, in which from one to three grains had been given with benefit once or twice a day, for periods of three or four years, and in one instance, with two short intervals, for a period of twenty years. We may observe, however, upon the supposed beneficial result in these instances, that time must be regarded as an important element in the cure. Dr. Engelkew has often administered this remedy for three months, and longer, in different forms of mental disease without having perceived any ill effects to have resulted; on the contrary, the appetite has improved, the entire frame has been benefited besides the marked and decisive amelioration of the mental malady. It has seldom been found requisite to give so large a dose as four grains. Medium doses have usually been combined with other means; regardless of the primary excitement, the use of the drug has been persevered in, limited to once or twice in the twenty-four hours.

The general influence of opium, the author divides into positive and negative, determined by the amount of the dose; thus, he describes

small (*e. g.* half grain) doses as producing augmentation of the rapidity of the circulation, and of the quantity of the secretions; if the dose be raised to a grain, or a grain and a half, the actions of the brain are increased, with diminished susceptibility to external impressions. Thoughts are developed more rapidly and with greater clearness, the association of ideas is more varied, and imagination more active. A larger dose, *e. g.* from three to ten grains or more produces the well-known phenomena of stupor, &c. The author further observes, that taken altogether, the primary and secondary effects of opium are excited upon the nervous system, producing, in general, a diminution of excitability, and an increase in the capability of action in the mental endowments.

Dr. Engelkew enumerates the following as the chief points to be considered in the employment of opium:—the bodily constitution, the nature of the disease, the contra-indications for its employment, the history of the disease.

The changes which time has introduced into our manners, customs, habits, &c., have had their influence in [illegible] a greater development of certain feelings and passions, with their corresponding morbid conditions, and by their frequent repetition, induce a preponderance of the nervous constitution. Opium, the author states, is more suitable for those forms of hypochondriasis which most nearly approach to melancholia, as the former can, in many cases, be more closely traced to disorder of the visceral ganglia than of the brain itself, to which the morbid state applies more strictly in melancholia. In neither form, however, does the author look for great benefit from its use. In general insanity, the utility of this medicine is observed when there is a degree of excitement; its continued use is then frequently of much service. In mania its employment is not required in the early stages, which are marked by more or less of inflammatory or sub-inflammatory action. This state having been in some measure subdued, the author administers opium in doses of one or two grains, gradually increased to four or six grains combined with calomel and digitalis. Warm baths and corresponding regimen being enforced at the same time.

Puerperal mania the author recognises as a disease of nervous excitement, with debility occurring in a peculiar inflammatory state, and a form of mania in which the best effects are obtained from opium. In idiotcy and dimentia the author finds opium of no service.

Dr. Engelkew recognises an asthenic and a sthenic form of delirium tremens, the former in his experience being more frequently met with in nine out of eleven cases. He administers opium in doses of from two to four grains with or without digitalis.

Chorea is a form of nervous disease, in which the author also states that he has witnessed the most decided benefit from opium. He gives it in increasing doses of from one quarter of a grain to one grain, with children of from 10 to 15 years of age, and continues its use for from two to eight weeks.

The contra-indications for the use of opium in mental disease mentioned by the author, are much the same as in other cases; *e. g.* 1. In insanity depending upon inflammation, with or without synochial

fever. Besides inflammation of the brain, of which delirium is a symptom, there are many other distinct forms of disease, which, in the acute stages, are attended by delirium, and for which an antiphlogistic, rather than a sedative, treatment is adapted. 2. In congestive conditions in the arterial (sanguine?) temperament, opium is injurious; whereas on the contrary, in the nervous and venous (lymphatic?) temperament, opium will, in the majority of cases, remove the congestion, especially when the exciting cause is to be sought in violent mental emotion.

With disease of the mind occurring in the asthenic state, the greatest caution is required in the use of opium.

With regard to the repetition of the doses of opium, Dr. Engelkew points out that this must be determined by the constitution of the patient, and the effects of the previous administration.

The author also observes upon the error of regarding all narcotics as equally useful in mental diseases; and repeats his remark that they are not to be regarded as they were formerly, specifics for insanity.

Art. 16.—*New Researches on the Curability of Softening of the Brain.* By Dr. Durand-Fardel.

(*London Journal of Medicine, and Archiv. Gén. de Med.*)

Dr. Durand-Fardel observes that recovery from cerebral hæmorrhage, and from softening of the brain, are well-ascertained facts. There is, however, a difference in the progress of the two diseases. In hæmorrhage, if the effused blood does not soon destroy life, cure or reparation commences by the absorption of the blood, the formation of a membrane, &c. The disease has attained its greatest development, and begins to diminish. The tendency of softening, on the other hand, is at first to increase; and its cure or decrease is only after a succession of changes, of which hæmorrhage offers no examples. Softening sometimes, indeed, simulates the rapid development and the decreasing progress of hæmorrhage; but this is due to the general congestion which often at first accompanies it.

When softening has passed into the chronic stage, the symptoms which attended it are connected, as in hæmorrhage, with destruction of a portion of the cerebral fibres,—due in one case to sudden laceration, and in the other to gradual disorganisation.

Dr. Durand-Fardel relates several cases, which lead him to the following conclusions:

Cerebral softening, when arrived at the chronic stage, may undergo cure like hæmorrhage effusion—by a process of limitation and absorption of the softened matter, analogous to the absorption of a clot. But this absorption, which at last produces ulcerations of the surface of the brain and cavities, or large losses of substance in the interior of the organ, succeeds to transformations, of which the most important are, *yellow patches* on the surface of the brain, and *cellular infiltrations* in the medullary substance.

With regard to the symptoms, patients have, during life, presented symptoms of severe disease, from which they have entirely recovered,

or of which they have retained traces exactly similar to those which attend the cicatrisation of hæmorrhagic clots. On *post-mortem* examination, we find softening, which sometimes seems to have remained stationary for a longer or shorter period, sometimes is transformed, and presents marks of reparation or cicatrisation. Sometimes, again, the nature of the anatomical change is confirmed by the symptoms; sometimes, the origin of the symptoms is proved by the nature of the change.

The cases in which life has continued for years with slight paralysis, as if from a cured hæmorrhagic clot, or those in which all symptoms have disappeared after an uncertain period, prove, whatever be the character of the lesions subsequently found, that cerebral softening has not that fatal progress which is commonly attributed to it; that the prognosis usually formed ought to be modified; that, in an individual affected with cerebral softening, the symptoms may entirely disappear, or, more frequently, diminish and become limited.

The author, in concluding, acknowledges that he is not the first who has pointed out the possibility of recovery from cerebral softening: this has already been done by Andral, Cruveilhier, Lallemand, Carswell, and Dechambre.

Art. 17.—*On the Treatment of Chorea.* By Dr. Sée, of Paris.

(*British and Foreign Medico-Chirurgical Review.*)

Speaking of this affection, Dr. Sée enters into a critical examination of the various modes of treatment, and makes some very interesting observations upon the employment of gymnastic exercises and sulphureous baths. Gymnastic exercises, suggested long since by Darwin and Good, have been recently employed at the Hôpital des Enfans with the most marked success; and as the subject is of great interest just now, when we are commencing the establishment of children's hospitals in this country, we may state the general results of their introduction into that of Paris to a much later date than M. Sée's essay refers to. They were first employed there in 1847, under the guidance of M. Laisné, gymnastic professor at the Polytechnic School, their effects being first tried on scrofulous children. Commencing with simple movement of the legs and arms, accompanied by appropriate songs, the children's progress was so rapid, that they were soon able to employ the orthopædic ladder, the parallel bars, and other machinery, in succession. By the twentieth lesson they were exercised in wrestling, and afterwards in running, special exercises being devised for the lame. From the first lesson the children became fired with emulation, and movements which seemed impossible were soon executed with ease and pleasure. A marked amelioration was speedily observed, their countenances becoming animated, their flesh firm, their voices stronger, their appetites keener and more regular; glandular swellings which had long resisted all treatment, were resolved, and fistulous sores that had been open for years closed up. The lessons, one hour each, were given three times a week; and in the intervals the children amused themselves by repeating such of them as did not require machinery. The entire appearance of the wards was changed. In

place of the children sitting or lying about listlessly, they were now seen practising their marches to their songs, running, wrestling, and trying to surpass each other, the girls nowise yielding to the boys. The beneficial agency of such activity imparted to these naturally indolent and apathetic subjects, may easily be conceived. These favorable results led to an enlargement of the sphere of the experiment, and the treatment was extended to nervous affections, partial paralysis, rickets, and especially *chorea*. Since 1847 there have been ninety-five children suffering from chorea, sometimes so obstinate as to have resisted the most varied treatment, cured either by this means alone, or by its conjunction with other means; and during the four years no accident whatever has resulted from the employment of the exercises. Dr. Sée states, that in applying them to chorea, care is taken to graduate them according to the severity of the case; and that they are repeated daily, but not for more than from fifteen to twenty-five minutes, so as not to induce fatigue and palpitation. Improvement is sometimes seen after the first lesson, and at latest after the fifth or sixth; so that at the end of a week we can judge whether the means is likely to prove efficacious, and if manifest improvement has not then taken place, it is doubtful whether the cure will be thus effected, or if it is, it will be so only after a long time. The worst as well as the slightest cases have reaped equal benefit, the cure in the favorable ones only requiring a mean of twenty-nine days, and old or relapsed chorea being more amenable than recent. Dr. Sée has found that when other remedies are conjoined with the gymnastics, the proportion of cures is less, and the period of their attainment later; and he recommends no other adjunct to be employed than good diet.

Sulphureous baths, as devised by M. Baudelocque, is another valuable means, fifty-eight rapid and definitive cures having been obtained in sixty-five cases. Thirty drachms of sulphuret of potash are added to each bath, which is employed for at least one hour daily, at a temperature of 91 degrees. Generally amelioration occurs after the second or third bath, but sometimes not until after twelve or fifteen days, a mean of twenty-two days having served for the cure of fifty out of fifty-seven cases. Where the cure is retarded, it ordinarily depends upon the patient's powers being lowered by other remedies or insufficient diet, upon irritation of the skin induced by the bath, or upon acute irritation of the internal serous membranes; circumstances contra-indicating the baths while they continue. The conjunction of other remedies retards rather than aids the cure. Deducting the cases in which the bath was improperly used under the above circumstances, there remain but nine true failures in eighty-one cases, these being almost all recent or rheumatic choreas.

ART. 18.—*Chloroform in Convulsive Affections:*—(1) *In Infantile Convulsions, and other Spasmodic Diseases*, by Prof. SIMPSON, of Edinburgh; and (2) *In Delirium Tremens*, by Mr. BUTCHER, of Dublin.

(1. *Monthly Journal of Medical Science.* 2. *Dublin Medical Press.*)

[These papers are interesting, from the light they throw upon the

modus operandi of the remedy, as well as for the evidence they afford of its therapeutical value. In Dr. Simpson's case, depressing measures are tried without success—then chloroform is tried successfully, and, ergo, a presumption that the remedy has acted, not by *depressing* the vital powers, but by rousing them. In Mr. Butcher's case, likewise, we arrive at the same conclusion, from the fact, that the treatment of delirium tremens, to be successful, must be stimulant. There is nothing in the composition or affinities of chloroform to prevent this supposition, when the remedy is given *in moderation*.

[1. Dr. Simpson's case, and the remarks to which this case gives rise, are to be found in the 'Monthly Journal of Medical Science.' He proceeds thus:]

Case.—The Viscountess —— was confined on the 7th of October. On the 17th of the same month, the child was observed by the nurse to have two or three times, during the day, twitchings in the muscles of the face. On the two following days these increased in frequency and extent; on the 20th, the convulsions became far more violent in their character, were more prolonged in their duration, and were repeated with much greater frequency. They continued with little change, and no abatement in their intensity or frequency, for the next fourteen days. Sometimes they affected the right side of the body much more severely than the left. In the meantime, Dr. Scott and I tried a great variety of means for their relief, but all in vain. The bowels were well acted upon with mercurials, magnesia, &c.; and every separate function attempted to be brought as near as possible to the standard of health. A new wet nurse was procured, lest the milk might perchance have been proving, as it sometimes does, the source of irritation. The child was placed in a larger and better ventilated room. Ice and iced water were occasionally applied to the scalp. At one time, when the fits became unusually prolonged, and were not only accompanied but followed for a time by much congestion in the vessels of the scalp and face, and an elevated state of the anterior fontanelle, two leeches were applied. Liniments of different kinds were used along the spine. Musk, with alkalies, was given perseveringly for several days as an antispasmodic; and small doses of opium, turpentine enemata, &c., were exhibited with the same view. All these, and other means, however, proved entirely futile.

As I have already stated, it was on the 20th of October that the fits first assumed a severe character, and they continued without any amelioration for about fourteen days from that period, recurring sometimes as frequently as ten or twelve times in an hour. At last the child, who had hitherto maintained wonderfully his strength and power of suction, began to show symptoms of debility and sinking; and during the fifteenth and sixteenth days of the attack, the fits became still more violent, and more distressing in their character. They were now accompanied with moans and screams that were very painful to listen to; symptoms of laryngismus and dyspnœa supervened towards the termination of each fit; and in the intervals the respiration, as well as the pulse, continued much quickened.

During these last two days of the disease, the exhaustion became so great, the dyspnœa, in the intervals, so distressing, and the fits so very

Dr. Saunders is inclined to believe. In pericarditis attended with effusion, the pulsations are said to be perceptible in a higher region than the dullness given by percussion. Ectopia of the heart is also detected by inspection.

Palpation leads us to recognise the intensity of the pulsations; we find them increased in hypertrophy, and diminished in dilatation of the heart. We again find them diminished in syncope, in pericarditis, or when the healthy lung is interposed between the viscus and the thoracic walls. Abundant effusion in the left pleura, or excessive abdominal dropsy, may also occasion displacement of the heart, and cause us not to find its pulsations by palpation. This mode of diagnosis also permits us to ascertain the extent in which the pulsations may be felt, and their frequency, which is always increased in endocarditis, in considerable valvular insufficiency, in nervous disturbances of the heart, in great general debility, and in all cases where the animal heat rises 99° Fahrenheit). Palpation tells us, on the contrary, that the beats are less frequent in some forms of hypertrophy, in cerebral disease, in certain intoxication[illegible] instance, after the exhibition of digitalis). This subject we will refer to more at large when we treat of "the pulse." Changes in the order of succession of the contractions of the heart may also be known by palpation, as well as displacements of the viscus by hydrothorax, pleurisy, or ascites. One of the signs furnished by palpation of the region of the heart is of the greatest value in the diagnosis of organic disease: it is that which has received the name of "purring tremor," and which always indicates considerable friction within the heart, and almost invariably denotes valvular disease. Hope, Dr. Stokes, and Professor Bouillaud have also met with purring tremor in pericarditis. We have not had that good fortune. Laennec, who, during the last years of his life, betrayed a singular tendency to doubt the existence of anatomical alterations in conjunction with the physical signs of disease, admitted that purring tremor might be produced by mere nervous disturbance; this opinion, however, we cannot possibly partake of.

Percussion, introduced into science by Auenbrugger and Corvisart, was, it is singular to say, hardly noticed by them as a means of coming to a correct diagnosis in diseases of the heart. It is chiefly to Professor Piorry that the credit is due, of having shown the important results to be obtained from that method in disorders of the central organ of circulation. In the healthy adult the precordial region is perfectly dull on percussion in an extent of two square inches; around this dull region, strong percussion yields also a certain loss of resonance in about one inch and a half in every direction. Near the sternum the dullness is less perfect, and corresponds to the right cavities of the heart; in this region, also, we should add that less resistance is felt by the finger during percussion. The presence of the emphysematous lung between the heart and the thoracic walls diminishes the dullness; but it is increased by effusions in the left pleura, by indurations of the lung, and by tumours of the mediastinum, such as cancer, abscess, or aortic aneurism; disease of the heart itself, or of its envelopes, also has the same result. Effusion in the pericardium causes dullness in a pyramidal region, with its apex at the upper part of the sternum, and

its basis below; this dullness may be displaced in changes of position of the patient, when the effusion is not very considerable. Increase of size of the heart, whatever its cause, also produces augmentation of the space in which dullness exists during health; thus, accumulation of blood in the heart, eccentrical hypertrophy (dilatation), produce increased dullness. In enlargement of the left cavities, the dullness is chiefly found towards the fifth, sixth, seventh, or eighth ribs; and when the right side of the heart is hypertrophied, it is towards the inferior part of the sternum that the maximum of dullness is observed. As to the delineation by percussion of the various cavities of the heart, Professor Piorry asserts that it may be obtained by plessimetry; but further researches are necessary in order to satisfy us upon this point.

2. *Signs furnished by auscultation of the heart.*—When the heart of a healthy subject is auscultated, two sounds are heard, separated by an interval of silence. The first sound is more dull and more prolonged than the second; its greatest intensity is found to correspond to the space between the fourth and the fifth rib, a little to the left of the nipple, and somewhat lower. At the same time, the apex of the heart strikes the thoracic walls, and the arterial pulse takes place. Perfect synchronism between the pulsation of the arteries and the first sound of the heart exists only in the arteries placed in the immediate vicinity of that viscus. The vessels more distant from the centre of circulation are distended by the blood a little later, but at an appreciable interval. The second sound of the heart, clearer and shorter than the first, is most distinctly heard near the insertion of the third rib to the sternum. The interval which separates the first from the second sound is called the short silence, in opposition with the longer silence, which intervenes between the second sound and the first. The first bruit corresponds with the contraction, the second with the dilatation, of the ventricles. We are aware that Dr. Corrigan and Dr. Beau hold a contrary opinion, but the numerous researches of various experimentalists, and our own observation, induce us to adopt the general belief on this subject.

Various theories have been broached for the purpose of accounting for the production of these sounds. We are of opinion that the sounds are not due to one cause only, but to the combination of several: thus, it is not only to the impulse of the heart, to muscular contraction, to the play of the valves alone, or to friction of the blood against the visceral walls exclusively, that these sounds should be ascribed; but we should consider that all these causes have a share, an unequal one it is true, but still all have a share in their production. Thus we would look upon the tension of the auriculo-ventricular valves as the chief cause of the first sound, assisted secondarily by friction of the blood against the aortic walls, and against the basis of the column of blood forced into the arteries; as still more secondary causes of the first sound, we should also mention the muscular contraction of the ventricles, and the impulse of the apex of the heart against the thoracic parietes. As the principal causes of the second sound, we would name the sudden tension of the arterial valves, and the return of the blood upon their superior surface; as secondary causes of its

production, the sudden opening of the auriculo-ventricular valves, and the passage of the blood into the ventricular cavities.

In the history of the auscultation of the sounds of the heart, we have to consider their seat, extent, intensity, tone (*timbre*), and also the substitution of morbid to natural sounds.

With regard to their seat, we may say that the various causes which occasion a displacement of the heart itself, also change the seat of the sounds; tumours will, therefore, frequently have this effect—a fact so simple as to require no further demonstration.

The extent in which the sounds of the heart are heard during health may be increased, as in endocarditis, dilatation of the viscus, fever, emotions, and nervous affections, generally, by which the violence of its contractions is augmented. If the heart is supposed to remain healthy, still the extent in which the sounds are heard may be increased by all the causes of condensation of the lung, acute and chronic pneumonia, consumption, &c., which render the respiratory organs better conductors of sound. On the contrary, that extent will be diminished by atrophy of the heart, concentric hypertrophy of its walls, pulmonary emphysema, &c.

The intensity of the sounds is augmented in eccentric hypertrophy, in neurosis of the heart, rarely in endocarditis. In feverishness the intensity of the sounds and the impulse are not augmented as much as one would, *à priori*, suppose. The sound of the heart can sometimes be heard without immediate application of the ear to the chest, and at very variable distances, from two or three inches, for instance, to two or three feet, as we have ourselves observed. The sound thus heard coincides with the ventricular systole; and we believe the cause of the phenomenon to reside in a great increase of energy of the impulse of the heart against the thoracic walls. Laennec explained it by the presence of gas in the pericardium—a gratuitous hypothesis which we do not feel disposed to adopt. In general debility, in softening or atrophy of the heart, in syncope, we find a diminution of its pulsations. We may also add, that in pericarditis increased dullness coincides with diminished intensity of pulsation, when effusion has taken place; whereas both the dullness on percussion and the intensity of pulsation are increased in hypertrophy of the organ.

The rhythm, or regular succession of the sounds of the heart, may be modified by disease. Thus, the sounds may be intermittent, and the return of the irregularity very variable, and depend upon agitation, motion, or even digestion. Before the age of sixty we very seldom meet with those intermittencies in the pulsations of the heart, without some organic disorder of that viscus. We meet them, for instance, in valvular diseases, and particularly in those of the auriculo-ventricular orifices, whether permanent or transitory in their nature. They also exist when fibrinous concretions form within the heart, in functional disturbance, and whenever any tendency to augmentation or diminution of the action of the heart is produced. We shall not, therefore, be surprised to find them before syncope, or after the exhibition of digitalis. Recollect, however, as a general remark, for the accuracy of which we pledge ourselves, that simple nervous affections very seldom cause intermittent pulsations. The duration of the sounds, or of the

intervening silences, may be increased or shortened. The prolongation of the first bruit is generally connected with hypertrophy of the ventricular walls, particularly when this alteration coincides with arterial stricture. As to the second bruit, it is more common to find it shortened than lengthened by disease.

The sounds of the heart may be modified in number. Thus, of the two, one only may remain. It is then the first which, being prolonged, covers and absorbs the second, as in concentric ventricular hypertrophy. The second sound may also, but more rarely, be so much weakened as not to be perceptible. Instead of two sounds, three may be heard—one dull, and two clear sounds—resembling those produced by a hammer falling heavily once, and reverberating twice again afterwards (Bouillaud). It is, in such cases, the second sound which is repeated, and it is observed in strictures of the auriculo-ventricular orifices. The passage of the blood into the ventricles being slackened, a delay takes place in the fall of the blood backwards upon the arterial valves, and the treble sound alluded to is produced. The repetition of the first, the dull sound of the heart, is less frequent, but is occasionally met with, and forms what Professor Bouillaud calls "bruit du rappel," from its resemblance to the drummer's call to arms. Its organic cause has not hitherto been rigorously accounted for. In one case of considerable auricular hypertrophy, M. Charcolay states that he heard immediately before the first bruit a peculiar sharp sound. Instead of two or three bruits, four may be heard; but post-mortem examination has not yet thrown much light upon the mode of production of this rhythmic modification. Finally, we sometimes find, particularly when patients are first submitted to examination, that the sounds of the heart are so tumultuous and irregular that they cannot possibly be analysed. Repose often dispels this first result of emotion, and permits the physician to form a correct diagnosis in cases which, at first, seemed to defy discrimination.

The tone of the sounds of the heart may also be altered by disease. In general hypertrophy of that organ both sounds are more dull; in ventricular hypertrophy the first sound only; in auricular hypertrophy the second is thus modified. When the sounds, on the contrary, are more clear, it is generally the result of a condition opposite to hypertrophy, viz. dilatation. When the valves, particularly the bicuspid, are thickened and rigid from chronic endocarditis, a hard, dry, sharp sound is heard, which M. Bouillaud calls "parchment sound" (*bruit parcheminé*). In acute endocarditis, the valves being rather soft and fungous, than hard and rigid, a softer, muffled sound is produced, which the same pathologist names "hoarse sound" (*bruit enroué*). Here we also place the study of the metallic sound of the heart. It can be readily imitated by applying the palm of one hand to the ear, and striking the back of that hand with the extremity of the index of the other. This experiment proves evidently that this sound may be the result of concussion; and it is heard in the heart whenever that organ beats with unusual violence. Fear and mental emotion produce palpitation, and may therefore occasion the metallic sound. Also in intense fever, when the subject is vigorous, it may be observed. It may also accidentally accompany organic disease of the heart;

Laennec believed it to depend upon the presence of air in the pericardium—a supposition which has never been supported by facts. Dr. Dechambre observed it in one case, in which the stomach was distended by an accumulation of fluids and of gas. We consider this to have been, in M. Dechambre's case, a mere coincidence. That most distinguished observer, Dr. Hope, also noticed it under peculiar circumstances. It seemed, in a case which he met with, to be produced by percussion of the apex of the heart against the margin of a rib which projected internally, and ceased when Dr. Hope, by pressing upon the intercostal space, had re-established a level surface, upon which the heart did not meet with any inequalities. This most interesting phenomenon Dr. Hope established as the basis of a general theory of the metallic sound—a theory which we do not adopt. We believe certainly, with Dr. Hope, that in the case observed the cause of the bruit was the catching of the heart against the rib, but cannot admit that it is so in all cases. We believe, with Bouillaud, Barth and Roger, Beau, &c., that the metallic sound is produced by the violence of the percussion of the heart against the thoracic walls.

The morbid sounds heard in the precordial region may be generated inside or outside the heart. Those which are produced within its cavity have received different names, according to their more or less close resemblance with other sounds to which our ear is accustomed; hence the denominations of *bruit de soufflet*, or *souffle* (bellows-murmur), cooing, whining, rasping, or sawing sounds. The musical or cooing sounds are more marked in the arteries than in the heart, and we will speak of them on a future occasion. When a morbid sound precedes the first bruit of the heart it is called præsystolic; when it coincides with the first bruit it is a systolic sound. If the abnormal sound accompanies the second bruit, it is named diastolic. Diastolic bruits are generally soft; those which precede or accompany ventricular systole are much more frequently rough. In the auscultation of these sounds it is necessary to pay great attention to the extent over which they may be heard, and also to the spot at which they present their greatest loudness, the semeiotic signification of a morbid sound varying considerably, according to the seat of its maximum of intensity. The pathological conditions in which these abnormal sounds are produced are extremely various; thus we find them in four distinct circumstances: in the first place, they are met with whenever alterations existing in the heart interfere with the free passage of the blood from the auricles to the ventricles, or from the latter into the arteries; for instance, strictures of the orifices, valvular lesions, polypous deposits, &c. Secondly, we find morbid sounds when such alterations have occurred within the heart as to permit the return of the blood from the arteries into the ventricles, or from the latter into the auricles; this insufficiency may be produced by various valvular alterations, or by simple enlargement of the orifices consequent upon dilatation of the heart. Thirdly, morbid sounds are formed when an accidental communication takes place between the right and left cavities of the heart. Fourthly, when the heart is lacerated without complete rupture of its walls, and infiltration of blood takes place into its substance. It has been said that in simple hypertrophy morbid sounds may be

produced. We believe that in general it is not so: although it is not impossible that by hypertrophy a change may occur in the relative dimensions of the cavities and of the orifices of the heart. Morbid sounds generated within the organ may be produced also by pericarditis, but usually the abnormal bruits characteristic of this inflammation are formed outside the viscus.

The heart remaining healthy, morbid sounds may also be produced. Thus, when the blood has been impoverished, a soufile is heard. When, for instance, the amount of the globules of the blood descends below $\frac{80}{1000}$, soufile is always produced in some part of the circulating organs: always in the arteries, often in the heart. In plethora we do not find any change in the sounds. It is incorrect to say that febrile excitement causes murmurs in the heart: this occurs only when some complication is present. In ague, when the prolongation of the disease has brought on anemia, we may hear souffle, but it is the anemia, not the fever, which produces it. Laennec believed that certain morbid conditions of the nervous system might occasion in the heart a bellows-murmur. We deny it altogether, and assert that hysteria and hypochondriasis present this symptom only when accompanied by anemia. In a certain number of pregnant women, one of the effects of pregnancy is to diminish the globules of the blood, and therefore in some instances, we will not be surprised to hear a souffle in the heart.

With these data we can now convert these morbid sounds into signs of disease; and from their varieties of nature, of tone, and of seat, ascertain the morbid state which occasions them.

In the first place, let us first point out their signification in alterations of the heart. We have said that they might be produced by an obstacle to the free passage of the blood from the auricular into the ventricular cavities. This should chiefly be applied to the left cavities, the right side being very rarely diseased. Laennec had established as a law, that a souffle at the second beat of the heart was characteristic of auriculo-ventricular stricture. This *à priori* assertion, supported by no cases, was, however, for many years blindly adopted, when Dr. Corrigan showed that insufficiency of the aortic valves was also productive of a souffle accompanying the second bruit. Researches were instituted for the purpose of discriminating these two morbid states from each other, and Laennec's opinion began to be doubted when it was found that it was purely theoretical, and not derived from observation. One case only is in existence, of a souffle having been heard at the second beat of the heart, in conjunction with auriculo-ventricular stricture; it has been published by Dr. Andry, in his 'Manuel d'Auscultation;' but this case is a solitary one, and cannot be considered as a rule. From the interesting researches of Dr. Fauvel, we must conclude that, when the auriculo-ventricular orifice is strictured, a præsystolic bruit is heard, often beginning before the first sound, and finishing with or a little before it. This morbid sound has its greatest intensity towards the apex of the heart, and more or less to the left. We should not forget that some strictures of this same orifice cause no souffle, and that in these cases the diagnosis must be derived from other sources.

When an obstacle exists to the passage of the blood from the ven-

tricular cavities into the arteries—when, in other words, the arterial orifice is strictured—Laennec correctly asserts that a souffle is heard accompanying the first sound of the heart. This sound has its greatest intensity at the basis. It is heard almost exclusively in rheumatic endocarditis—a circumstance which shows that a feeble obstacle generates a morbid sound more readily in the arterial than in the other orifices. When the abnormal murmur is prolonged beyond the first bruit, and occupies also the short silence, or even anticipates slightly over the second bruit, we should conclude that a considerable difficulty exists to the passage of the blood into the aorta.

Morbid sounds accompanying the second bruit of the heart are connected with the reflux of the blood into cavities which it had abandoned; or, in other words, with insufficiency of the valves to close their orifices. This is certain, at least, for the aorta; but the diagnosis of auriculo-ventricular insufficiency is not so far advanced. The general opinion, it is true, is that this disease is productive of a souffle at the first beat of the heart; but it is a question which has not received a definitive solution. The insufficiency of aortic valves may be congenital, or result from perforation, laceration, adhesion, &c.; further, they may be unaltered, and still be insufficient, the aorta having undergone more or less dilatation. In all these various states the second sound of the heart is replaced by a constantly soft bellows-murmur, the greatest intensity of which is at the basis of the organ. In false aneurism of the heart, when accidental cavities form in its walls, a souffle is also heard, and generally at the second bruit. With regard to the communication of the right cavities with the left, a souffle is produced, but its diagnostic value is not hitherto well established. If a souffle was ever produced in simple ventricular hypertrophy, it would be heard at the first beat of the heart.

Dr. Aran states that, when the second sound of the heart altogether disappears, it is characteristic of adhesions of the pericardium to the viscus. We do not pledge ourselves for the accuracy of this sign.

The souffle of anemia has special characters, which we will now enumerate: its tone is constantly very soft: it is always a systolic sound, heard most distinctly at the basis of the heart, and invariably coincides with vascular murmurs.

Disease of the pericardium occasions morbid sounds. They are caused by the friction of the serous surfaces, rendered more or less rough by the presence of false membranes, or other deposits. They vary from the softest friction to a creaking sound, analogous to that produced by new leather. They may accompany one or the other, or both sounds of the heart, and can readily be distinguished from sounds due to friction in the pleura; the latter accompanying the respiratory movements, and not the contractions of the heart. They may be continuous or intermittent, according to their cause; but they are always superficial. On listening with attention, a gurgling sound has sometimes been detected; its origin is in the stomach, not in the pericardium. In one curious case, observed at the Hôpital Necker by Drs. Bricheteau and Beau, a gurgling was heard in the precordial region, which those experienced observers compared to the sound produced

by the rapid motion of paddles in water. On post-mortem examination, fluids, mixed with gas, were found in the pericardium, no signs of putrefaction being present at the time. This solitary case is sufficient to prove the mere possibility of such an occurrence, but it is, we repeat, extremely rare.

3. *Signs furnished by disturbance of the arterial circulation.*— These symptoms may be recognised by inspection, palpation, or auscultation.

Inspection informs us of the increased energy of arterial pulsation. In valvular insufficiency this increased energy is very remarkable, and often assists materially the diagnosis. We also find in cerebral congestion that the pulsations of the carotid and temporal arteries can be recognised by inspection. Aneurisms and erectile tumours present the same sign. In hypochondriasis and hysteria the aortic pulsations may sometimes be seen in the epigastric region—a singular and hitherto unexplained symptom. Patients occasionally feel the arterial throbbing; hypochondriacs, for instance, and persons affected with cerebral congestion, acute gastritis, or phlegmonous inflammation.

By palpation we recognise the frequency, strength, and rhythm of the pulse.

Some physiological circumstances cause the pulse to vary in frequency—age, for instance. Drs. Jacquemier and Lediberder state, that shortly before birth the pulsations of the fœtus in utero vary between 108 and 160; during the first four minutes of life they descend to 72—94, and rise in the course of the first day to 96—154. Sömmering asserts that the average of the pulse during the first year is 135; 120 during the second; 110 during the third; 100 during the following years, and 80 at puberty. Gorham gives 123 as the average pulse of children one day old, and 128 during the first week. M. Valleix says that between the second and the twenty-first day the average of the pulse is 90. M. Trousseau, during the first two months of life, considers 137 as the standard of the pulse; from the second to the sixth month, 128; and 120 during the second half of the first year; from one year to eighteen months, 118. The pulse varies at all times of life during sleep. In thirty children, aged from fifteen days to six months, Professor Trousseau found the average of the pulse, awake, 140, and asleep, 121; in twenty-nine children, aged from six to twenty-one months, when awake, 128, and when asleep, 112. The pulse of the child becomes in disease much more frequent than that of the adult, and tends to remain so during convalescence—an important fact which should not be lost sight of. In the adult the average of the arterial pulse is 60—70. But great individual differences are observed; it is rare, however, to find the pulse descend below 50. Napoleon is said to have had only 40 pulsations in one minute. Below this number we believe that a pathological cause may always be found to exist, and to account for the extraordinary slowness of pulsation. In some persons the pulse is naturally quick, 80—90, and even 100. The researches of Drs. Leuret and Mitivié, at the Asylum of La Salpêtrière, show that in the aged the frequency of the pulse increases. At twenty-one years of age the average of the pulse is 65; at seventy-one it is 74. The

pulse of women is more frequent and more changeable than that of men, and, like children, women often preserve a quick pulse during convalescence.

In disease we find sometimes 200 pulsations in one minute; beyond this it is difficult, if not impossible, to count the pulse with any degree of accuracy. The increase of frequency of the pulse is the rule in fever, although some exceptional cases are said to exist in which the pulse remains low, but animal heat is augmented: we believe these cases refer to persons who, during health, have naturally a very slow pulse. Muscular exertion increases both animal heat and the quickness of the arterial beat; but excitement of the nervous system quickens the pulse without augmenting the animal heat; hence what are called nervous subjects usually have a frequent pulse. Debility and loss of blood generally quicken the pulse. In acute disease increase of frequency of the arterial circulation is usually an unfavorable circumstance, and when it is consequent upon venesection it shows that depletion was improper. The exhibition of some medicines, digitalis for instance, slackens the pulse; in some cerebral affections it is also slower than during health. Of all the diseases of the heart, that which produces most frequently acceleration of the pulse is, beyond doubt, insufficiency of the aortic valves; and in general, when the pulse is diminished in frequency during organic affections of the heart, it is only diminished in appearance and not in reality, some of the arterial pulsations being merely so weak as to escape detection.

With regard to its strength, the pulse may be soft or hard, strong or weak, high or low, depressible, full, wiry, undulating, or double (*bis feriens*). In simple hypertrophy of the heart, the pulse is hard; it is, on the contrary, remarkably soft in atrophy and in dilatation of the viscus. When the aortic orifice is considerably strictured, the pulse loses its strength; it becomes small and wiry (*serré*) in contractions of the auriculo-ventricular orifice. When the aortic valves are insufficient, the pulse is hard and full, a fact accounted for by the almost invariable coincidence of aortic insufficiency with ventricular hypertrophy. Whenever, therefore, in organic disease of the heart, you find the pulse peculiarly full and strong, direct your attention towards aortic insufficiency, which you will seldom fail to detect.

At the ages of sixty-eight or seventy the pulse generally acquires a considerable degree of hardness, perhaps on account of the tendency at that age to hypertrophy of the heart.

The strength of the pulse is also modified by the condition of the blood. In plethora it is full and strong; in confirmed anemia usually weak, on account of the smallness of the column of blood propelled into the arteries, and of the diminished energy of the contractions of the heart. We cannot admit with Dr. Beau that in advanced anemia the pulse is full. We conceive that opinion to have been brought forward by that observer as a theoretical consequence of another view of his—which we do not adopt—viz., the increase of volume of the mass of blood from the augmentation of its watery element.

Hemorrhages are often preceded by that state described in the first series of these lectures under the name of molimen hæmorrhagicum.

Besides this general disturbance, the pulse acquires an undulating character. After hemorrhage the pulse is depressed and low, in proportion to its abundance.

It is important to distinguish between two varieties of small pulse, each indicative of a different condition of the system: in one vital power is really depressed, in the other it is concentrated. The pulse of peritonitis and the pulse of advanced fever are both small; but the former is hard, the latter compressible; the former becomes fuller and stronger by depletion, the latter would by venesection be brought still to a lower state. In marked feverishness the pulse becomes full and tense, particularly on the approach of perspiration. It is not explained why in typhoid fever the pulse is so often double (*bis feriens*).* The pulse of internal inflammations is not by any means always the same; compare in this respect the pulse in peritonitis and pneumonia. When the nervous system is deeply affected, the heart is not solicited to powerful action, and the pulse becomes small and sometimes very difficult to feel, as in the pains of painter's colic, of hepatic and nephritic colic, &c.

If we consider the rhythm of the pulse, it may be regular, unequal, irregular, or intermitting. The inequality of the pulse refers more to its strength, and the irregularity to the succession of its beats.

Great nervous disturbances may render the pulse irregular and intermittent; in meningitis, particularly of childhood, after the exhibition of digitalis, before syncope, in confirmed debility, after abundant alvine discharges, this is frequently observed. In acute diseases irregularity of the pulse is uncommon, except when they draw rapidly towards a fatal termination.

Constant and persisting irregularity of the pulse indicates almost always disease of the heart. In hypertrophy of the heart, and in valvular insufficiency, the pulse is seldom irregular; but in strictures of the orifices, on the contrary, we often meet with this symptom, and mostly in strictures of the left auriculo-ventricular passage. The souffle may be absent, but the irregularity of the pulse is quite as important. The aortic orifice, on the contrary, when strictured, more constantly is accompanied with souffle, and less often with irregularity of pulse.

It is frequent after the age of sixty to find the pulse intermittent, no other symptom of disease being present; this almost always indicates incipient alteration of the bicuspid valves. Repose and venesection remove this sign, but aggravate it if improperly repeated. When organic disease of the heart causes these intermissions of the pulse, it is not very unusual to see them suppressed by accidental feverishness, by which the heart is stimulated to increased exertion. Some patients are conscious of these irregularities, from a peculiar sensation experienced in the region of the heart. Not to forget anything, let us also add, that when the principal artery of a limb is obliterated, its pulsations cease to be felt. Corvisart stated that some organic diseases of the

* [We regard it as produced by a double effort on the part of the heart to expel the quantity of blood, which ordinarily requires but one stroke; it is a sign of debility, and in typhoid fever affords strong indication for the use of wine.—ED]

heart, passive aneurism (dilatation), for instance, might occasion gangrene of the skin of the lower extremities, or even of other parts of the cutaneous surface. No case had, however, been brought forward in support of this opinion; but in July, 1847, an interesting case appeared in the 'Gazette Médicale,' of Paris, observed by Prof. Forget, of Strasbourg; it was one of very considerable stricture of the left auriculo-ventricular orifice; the aortic passage being healthy; the pulsation of the radial artery was unequal and intermittent; none was discernible in the femoral arteries. Mortification showed itself on the feet and legs, and on dissection the iliac and femoral arteries were found obliterated by ancient clots of blood, the vascular walls having remained perfectly unaltered.

4. *Signs derived from investigations of the venous circulation.*—We cannot think of separating the history of the signs furnished by auscultation of the veins, from those yielded by the application of the same method to the arteries. During health no sound is produced by the passage of blood through the veins. In some diseases, on the contrary, we hear a continuous murmur due to this cause. This sound varies considerably in intensity, and may be either simply continuous, or present periodical risings, which indicate the presence at the same time of souffle in the artery and in the vein: it is then called *souffle à double courant*, or *bruit de diable.* In this case, if by pressing upon the vein you arrest the continuous murmur, the intermittent arterial bruit will still be heard, and the nature of the double sound will thus be explained. A sort of cooing is also sometimes detected in the veins, or a buzzing sound; sometimes the bruit is analogous to that which is observed when the ear is brought into close apposition with a large conch or shell; a musical sound is also more frequent in the veins than in the arteries. The continuous venous murmur can be heard only in the neck, in the space circumscribed by the trapezius, scaleni, and sterno-cleido-mastoid muscles, and in the course of the internal jugular vein. When the souffle is heard in the jugular veins, pressure exercised upon these vessels, above the stethoscope, instantly arrests the murmur. This sound is more frequent and more strong on the right than on the left side of the neck. If the larynx be gently pushed away while the veins are examined, the bruit will often be found to lose some of its intensity—a fact which M. Donné explains by supposing that the larynx acts as a kind of sounding-board. During effort the souffle ceases; it is stronger during inspiration than expiration, and is more distinct when the patient stands or sits, than in the reclining attitude; if the head be lower than the body, the murmur often ceases; it is increased by exercise, and diminished by the causes which retard the circulation of the blood in the veins: thus the application of the cupping-boots, invented by Dr. Junod, diminishes its force. Venous murmurs are heard only in one condition of the system, viz. anemia. They are constant when the globules of the blood descend below $\frac{80}{1000}$, and never exist when they average above $\frac{106}{1000}$. In the anemia consequent upon saturnine intoxication, profuse hemorrhage, or convalescence, they may also be detected. When the fibrine or albumen of the blood only has decreased, we find no morbid

sounds in the veins; in simple neurosis we do not meet with them, but we find them when neurosis is complicated, as it often is, with anemia.

For the purpose of explaining these vascular murmurs, various experiments have been instituted. Thus fluids of different density have been propelled through elastic tubes, and on applying the stethoscope no sounds were heard when the density of the injected fluid was considerable, whilst a souffle, more or less distinct, according to the speed of the motion, was distinguished when the density of the fluid diminished. These experiments, which have now been frequently repeated, do not explain the reason of the production of souffle, they merely demonstrate a fact; we must leave the solution of the problem to the further researches of natural philosophers.*

Inspection of the veins informs us also of some signs of disease. In effort, and when from any cause the circulation of the heart is embarrassed, the jugular veins become distended. In diseases of the heart, or when the pulmonary functions are much disturbed, a reflux of the blood into the veins of the neck is sometimes observed. M. Martin Solon noticed this sign in animals, in the veins of the superior extremity, and also in the abdomen, where the circulation was much impeded. Swelling of the veins may result from the pressure of a neighbouring tumour. Distension of the veins of the thoracic walls points to an obstacle to the circulation of the blood in the v. cava descendens, either from the presence of a tumour (usually cancer) in the mediastinum, or from aneurism of the aorta. Very lately, Dr. Grisolle met with a case of obliteration of the v. cava descendens from circumscribed phlebitis, accompanied by distension of the veins of the thoracic walls. The veins of the abdominal parietes may also acquire considerable size. In simple ascites, produced by cirrhosis, or chronic peritonitis, they are seldom much developed; but when they become greatly distended, chiefly on the right side, you may depend upon finding a tumour pressing upon the vena cava ascendens, or the v. portarum.

5. *Signs derived from the investigation of the capillaries.*—The state of plenitude, or of vacuity, of the capillary vessels is betrayed by the appearance of the skin, which also permits us to judge of the increase and diminution of the globules of the blood. In chlorosis the skin acquires a greenish tinge, and the visible mucous membranes, the inner face of the lids, the lips, gums, and tongue are remarkably pale. In pulmonary consumption the face becomes very pale, and the red patch, so often noticed on the cheeks, is the result of feverishness. Albuminuria, or Bright's kidney, causes a particular paleness of the countenance, which is at the same time more or less puffed. Organic diseases of the heart causes frequently an œdematous appearance of the face, but at the same time a certain degree of cyanosis. The face is considerably discoloured in chronic gastritis, but is extremely thin. Plethora produces an unusual redness of the skin. Whenever the blood is not properly influenced by the oxygen of the air, whatever may be the cause, the skin acquires a dark, bluish tinge, of a very characteristic

* Vide Report.

nature. We find this colour in diseases of the heart, on communication of the right with the left cavities; and also whenever the venous circulation is greatly embarrassed. We likewise observe it in pulmonary emphysema, and in the second stage of Asiatic cholera. It is, of course, to be met with in true asphyxia, caused by submersion, strangulation, &c., and in those various forms of intoxication which interfere with a proper oxidation of the blood.

In cancerous diseases, particularly in cerebriform cancer, and when the morbid product betrays a tendency to be developed in several parts of the body, a special straw-coloured hue invades the skin, and is too different from the chlorotic tinge to be ascribed to a similar cause.

In various great classes of diseases clinical medicine will point out special colorations of the skin. We need only name its yellow aspect in jaundice, and its earthy hue in intermittent fever. Clinically speaking, attention to this point may often be useful. For instance, in the advanced periods of typhoid fever the appearance and colour of the face are quite characteristic; further, in delirium, a valuable sign is furnished by the inspection of the conjunctiva: it is injected in meningitis, and pale in typhoid fever. After the prolonged exhibition of nitrate of silver, an indelible bronze colour shows itself upon the skin—a fact which constituted a strong objection to the alleged periodical renovation of our tissues.

6. *Signs derived from examination of the spleen.*—The spleen is an appendix of the circulation, which will now occupy our attention. This viscus is subject to very rapid variations of size—a fact frequently observed in the early stages of diseased heart. Palpation of the left hypochondrium permits us occasionally to feel the protrusion of the enlarged spleen; but percussion is much more useful than palpation for the purpose of ascertaining its dimensions; and much gratitude is due to Professor Piorry for his able researches on this subject. Percussion shows that, when the spleen does not descend below the margin of the ribs, it still may be much enlarged. We should further be aware that the development of gas in the colon, or stomach, may conceal a part of the extent of the viscus. Increase of size of the spleen is seldom an idiopathic disorder; cancer of that organ is not in general a primary alteration, but appears only long after other parts have been similarly diseased. Hydatids have been met with in the spleen, and also abscesses. Enlargement of the spleen is, therefore, usually one of the symptoms of another disease. It is found in intermittent fever. Observation teaches us that, when the patients are observed in the incipient stage of the malady, the spleen often does not appear increased in size, but that this alteration occurs if the disease be prolonged. After repeated attacks of intermittent fever, the spleen may remain permanently enlarged, and on dissection it is found indurated, and resembling in colour and density a piece of ham. After pernicious intermittent fever the spleen is found in a state of enlargement, accompanied with softening.

In continuous fever the spleen may also increase in size. This is very common in typhoid fever, and coincides with softening of the

organ. This is what observation teaches; but when we attempt to explain the coincidence of enlargement of the spleen with ague or fever, we are compelled to acknowledge our ignorance. It is certainly not due only to the presence of febrile excitement; for how many febrile diseases could we mention which are unattended with hypertrophy of the spleen—pneumonia, pleurisy, rheumatism, consumption, &c. In general, we may say that, when chemical analysis shows an increase of fibrine in the blood, the spleen is not enlarged; but when, on the contrary, the fibrine decreases, or tends to decrease, the volume of the spleen is usually augmented—e. g. typhus, plague, yellow fever, and scorbutic disease.

In organic affections of the heart the spleen at first rapidly swells, or diminishes, under the influence of various causes; but at a later period, when the patient dies from the progress of the malady, the spleen is found small and indurated.

We have now examined the signs furnished by the heart, the vessels, and the spleen, and we should inquire into those yielded by the state of the blood contained in their cavities, had we not, during the last session, devoted several lectures of the first series of this course to that important subject. To those lectures we must refer you, in order to avoid repetition and loss of time.

The alterations of the lymphatic glands are generally signs, and seldom idiopathic diseases. In principle we may state that, when a mucous or cutaneous surface becomes diseased, the neighbouring lymphatic glands, traversed by the lymphatic vessels which originate in the unhealthy portion of skin, are swollen and inflamed; but the lymphatic glands being primarily affected, may still betray a general disease, and are a sign of scrofula.

Art. 27.—*The Physical Diagnosis of Aneurism of the Thoracic Aorta.* By Dr. Ray Charles Golding.

(*Medical Gazette*, Feb. 4 and 11, 1847.)

The aids to the physical diagnosis of thoracic aneurism recognised by the author are comprised under the following heads:—1. Abnormal pulsation. 2. Dullness on percussion. 3. Alteration in the sounds of the heart. 4. Alterations in the position of the thoracic viscera. 5. Changes in the characters of the respiration and vocal resonance. 6. Changes in the abdominal viscera, and in arterial and venous circulation of the head, neck, and superior extremities.

1. *Abnormal pulsation.*—Under ordinary circumstances, Dr. Golding observes that the pulsation of the heart is not perceptible higher than the third intercostal space; but during hurried breathing, or temporary excitement of the circulation, the boundary may be extended to the second intercostal space, even in the healthy heart. If the pulsation, however, is evident in the hollow of the neck, above the sternum, it is usually due to one of the following causes: tumours pressing on the large vessels, and receiving impulse from them; an anemic state of the system; and, thirdly, aneurism or preternatural dilatation of the vessels of the heart itself.

The tumours which give rise to pulsations in this situation are usually cancerous, or tubercular degenerations of the lungs, bronchial and mediastinal glands. In chlorosis the pulsation is due to increased irritability of the heart, together with an impoverished condition of the blood. The pulsation of aneurism is progressive, often perceptible over the whole chest, in the epigastric region, and down the back. It is often disproportionate to the heart's impulse, and is not materially influenced by moderate exercise; in which respect it differs from chlorotic pulsation.

In aneurism of the arch of the aorta, the first visible indication of its existence may be a pulsation in the hollow of the neck, above the sternum; in aneurism of the descending portion the pulsation is greatest in the back. In true aneurism, the pulsation is more uniform than in the false. Thus to recapitulate, aneurismal pulsation is progressive; is appreciable in regions in which healthy pulsation is inappreciable; is more intense than that produced by tumours deriving their pulsation from the heart or large vessels; and is not materially increased by the trivial causes which augment the pulsation in anæmia and chlorosis.

2. *Dullness on percussion.*—In a healthy adult, the natural limits of dullness on percussion over the pericardial region are stated to be, during ordinary respiration, a space of two inches square; after a forced expiration, a space three inches square. After a forced inspiration the space rendered dull by a forced expiration becomes more or less resonant. At the upper part of the sternum, a little to its left, there is slight dullness after expiration.

In aneurism of the arch of the aorta the dullness is at first under the upper part of the sternum, but well defined only after expiration. In aneurism of the descending aorta, dullness is not easily defined.

Dullness on percussion, attended with abnormal pulsation, exists only under two circumstances—in aneurism, and where tumours derive a pulsation from their adjacency to a large vessel. Pulsating tumours, not aneurismal, are distinguished from aneurism by two signs: 1st, by the feebleness of their pulsation, compared with an aneurism of the same size; 2d, according to Dr. Stokes, by the pulsation following the stroke of the ventricle, the pulsation of aneurism being synchronous with it.

3. *Alterations in the sounds of the heart—Purring tremor.*—Although, in some instances, the pulsation of aneurism with concomitant bellows-sound may be audible over the greater part of the chest, yet the sounds of the heart itself are seldom audible beyond the precordial region, or, if so, it is the first sound alone that is so perceived.

In false aneurism, the first sound is heard over the whole tumour, unless its size be excessive. In true aneurism, the first sound is heard, though feebly, over the tumour, as is also the second, but in most instances more distinctly than the first sound.

The second sound is muffled in false aneurisms of large size, as well from the amount of concentric lamellæ of fibrine in the sac, and the adhesion of surrounding textures to it, as from the loudness of the systolic bruit accompanying it. The thinner the sac, the more probability of

hearing the second sound; so that, if no bruit exists, as in true aneurism, there is no physical reason why the second sound should not be heard.

In false aneurism, on the contrary, where a bellows-murmur exists, whatever increases the force and frequency of the heart's action, develops the attendant bruit in greater intensity; so that the second sound is rarely audible, except over the aortic valves themselves. If there is valvular disease of the heart, or structural changes in the portion of the artery adjacent to the aneurism, the sounds of the heart will be obscured by the morbid sounds elicited under such circumstances, independently of the structure of the aneurismal sac.

The morbid sounds [?] attending false aneurism are two—the bellows-murmur, and the purring tremor; the former is readily distinguished by auscultation, the latter by manipulation of the cardiac region. [Surely a phenomenon which is only recognised by the *touch* should not be called a *sound*.—Ed.] The bellows-murmur varies in intensity and intonation, according to the degree of rigidity of the artery. It may be either single or double.

[We need not follow the author in his explanation of the mechanism of the systolic murmur, or in his remarks as to the possibility of its occurrence independently of aneurism. These facts are familiar to the least advanced of our readers.]

In aneurism of the arch of the aorta, the bruit is first heard under the sternum, and in the hollow of the neck; next, on one or both sides of that bone, to a variable extent; and, lastly, over the entire chest. It is heard with the greatest intensity along the blood-vessels from the base of the heart, being less distinct as we approach the apex; in which it differs from the bruit arising from diseases of the mitral valve. In aneurism of the dorsal portion of the aorta, the murmur is heard best between the scapulæ.

The purring tremor depends upon abnormal vibration of the thoracic walls. It is indicative of false aneurism, when accompanied by inordinate pulsation, by dullness on percussion, and a rough systolic murmur. It is not constantly present in true aneurism.

To recapitulate: In true aneurism there is usually no bellows-murmur, no inaudibility of either sound of the heart, nor purring tremor. In false aneurism, a systolic murmur usually exists, accompanied or not by a diastolic one, and not unfrequently with a purring tremor. The second sound of the heart is seldom audible over the sac.

4. *Alterations in the situation of adjacent parts.*—In true aneurism, the parts around the sac adapt themselves to the gradual expansion; in true aneurism, also, adhesions seldom form between the tumour and surrounding soft parts; nor is there any injurious pressure upon them, as in false aneurism, so long as the costal cartilages yield to the pressure.

In false aneurism, from the unyielding character of the sac, the adhesions formed between it and surrounding structures—lesions of the lungs and pleuræ; dropsy from pressure on the veins; general emaciation from obstruction to the passage of the chyle into the veins; asthmatic paroxysms, from irritation of the phrenic pneumogastric and

sympathetic nerves; paralysis and violent reflex movements, from implication of the spinal marrow and cord; dyspnœa, dysphagia, chronic vomiting, with pains in the brachial plexus of nerves—are its most usual concomitants. In true aneurism, on the contrary, these distressing symptoms are commonly absent, or are never so distressing; the utmost being erratic pains in the arms and neck. The difference is explained by the yielding of the true aneurism as compared with the false.

The changes in the form of the chest are referable to the following causes: in false aneurism, to the pressure of the tumour on one or other side of the sternum, or directly in its centre; to adhesion of the sac with other structures; and to pulmonary consolidation, or effusion into the pleura and pericardium. In true aneurism, these effects are not produced to the same extent, and, being gradually produced, do not occasion so much functional disturbance.

5. *Changes in the characters of the respiration and voice.*—In true aneurism, the breathing may be unaffected throughout. In the false aneurism there is usually some alteration in the respiratory sounds from the commencement. The signs are referable to the larynx, trachea, and larger bronchi and substances of the lungs.

a. The larynx may be affected with spasm, when the breathing will be sibilant, the percussion-sound and expansion of the chest remaining normal. From pressure on the larynx, the stridulous breathing becomes permanent. From inflammation and consequent thickening of the mucous membrane, râles, sibilous or mucous, arise, according to the amount of secretion.

b. Pressure on a bronchus induces feeble respiration in the corresponding lung, with puerile respiration in the other.

c. The signs referable to the lungs arise from the greater or less condensation of the pulmonary tissue, from pressure, inflammation, or degeneration.

d. The signs referable to the pleura consist of those which indicate serous effusion.

6. *Changes in the abdominal viscera, and general circulation.*—The liver, or spleen may be hypertrophied from pressure of an aneurism on the inferior cava, and may be displaced by the mechanical effect of effusion into the pleuræ. Irritation of the phrenic nerves causes hiccough and dyspnœa.

The circulation in the head and upper extremities is more deranged in false than in true aneurism. The superficial veins become varicose; there is œdema of the face and neck, which arises from pressure on the veins.

Art. 28.—*On Pericarditis Scorbutica, and its Treatment by Paracentesis.* By Dr. Kyber.

(*Oest. Med. Wochenschr.*, and *Monthly Journal.*)

The disease here described is found on the extreme northern coasts of Europe, where scurvy reigns endemically from spring to autumn, and affects almost exclusively the class of sailors, who are, of course, peculiarly exposed to all the causes of the scorbutic diathesis. This

form of pericarditis appears to have been described by Cælius Aurelianus under the name of morbus cardiacus; but in more modern times has fallen into neglect, partly from the remoteness of the regions in which it prevails, and partly on account of the obscurity of the symptoms, and the deficiency of pathological observations. Dr. Kyber considers it as a very different disease, in its course and phenomena, from ordinary pericarditis. He thinks that its causes are the same as the scurvy, to which it is so closely allied; and remarks that the extent of its epidemic prevalence in a given year is always proportionate to the violence of scurvy in the same year. It seldom appears before February, attains its height about April, declines in summer, and disappears during autumn. It chiefly affects men from twenty-five to forty-two years of age; it has not been observed in women. A fourth of those affected are Russians, and three fourths are Lettons (Lithuanians, &c.) and Esthonians, men mostly of a relaxed habit, and prone to hypochondriac and nostalgic affections. The external signs of scurvy are not always visible. In fatal cases the pericardium is found enormously distended, often measuring a foot in length, and containing three to eight, or even ten pounds, of dark red, or blackish opaque fluid, composed of serum and fibrin, with blood-corpuscles angular, and otherwise altered in form. The inner surface of the pericardium is covered with a coat of lymph, which is easily torn, reticulated on the free surface, of the colour of cinnamon. It can often be removed in layers, of which the palest and firmest are those attached directly to the membrane. The membrane itself is either injected, or stained with dark-coloured sugillations. On the part covering the heart, the lymph is often irregularly disposed in shreds, having a rugged or honeycomb appearance, and composed of bright red or yellow granules. The heart is diminished in size, and its substance is pale, flaccid, and easily torn. In cases where the fluid has been absorbed, adhesions are found between the layers of the pericardium. A similar exudation to that above described is frequently found in the pleura or peritoneum. The left lung is frequently much compressed by the distended pericardium, the right gorged with blood, or even inflamed.

The author describes the symptoms of this affection as occurring under two forms, acute and chronic; of which the former is commonly primary, the latter supervening secondarily on a catarrhal or rheumatic affection. The acute form begins with a sensation of coldness and prostration, oppression alternating with pain in the chest and epigastrium, rapid painless breathing, and decubitus on the left side; to these follows a discontented, gloomy condition, or complete apathy; with a pulse small, intermitting, or, when the effused fluid reaches two or three pounds, inappreciable. When the quantity of fluid is very large, the extremities are cold, the pupils dilated, the jugular veins distended, the expression exceedingly anxious; consciousness remains unaffected. The sound on percussion may be dull on the left front up to the clavicle; the heart's sounds distinct or inaudible, if the fluid be large in amount; if this be small, there may be friction-sound. The left side of the thorax is distended, and does not move freely; the lung on this side does not act; the right side, on the contrary, has puerile respiration. The epigastrium is protruded, and sensitive on pressure.

In the acute form these symptoms may be developed in twelve hours; in the chronic the progress is longer, the danger to life less immediate; but the retrograde process of the disease, in case of amendment, is also much slower, and less satisfactory in its results.

In the treatment of this formidable affection, most of the remedies for ordinary pericarditis are either inapplicable from the cachectic constitution of the patients, or, if applied, fail to accomplish any good purpose. The apparent certainty of a fatal issue in such cases induced the author to afford a chance of prolonged existence by paracentesis of the pericardium. This operation, however, he has not yet attempted, except in cases where death seemed impending, and where the fatal issue could only be postponed by a bold measure of immediate relief.

The operation performed by the author consists in the insertion of Schuh's trocar between the fourth and fifth ribs of the left side, close to the sternum, and passing it a little obliquely outwards, till the point is felt to enter the pericardium. The trocar is then withdrawn, and the fluid allowed to flow through the canula, which is apt to become blocked up by lymph, and in this case must be kept clear by a stilet, or probe. By this method both the pleura and the internal mammary artery are avoided. The operation is painless, except where it is necessary to remove, by the adaptation of a syringe, either fluid or air which has entered into the cavity. The immediate effects of it are, return of the pulse, removal of the anxiety and dyspnœa, and renewed animal heat, with comfort and cheerfulness of mind; at the same time the friction-sounds return, and the heart's sounds also become again appreciable. In the greater number of cases life is merely protracted, as the fluid is again effused in a few weeks in as large a quantity as before, and becomes fatal. Nevertheless, in four cases the author has succeeded in accomplishing a radical cure. In three of these he administered, after the operation, the sulphate of quinine, which he recommends to be used in doses of six to fifteen grains every two or three hours, with the object of affecting favorably the capillary system, and preventing the renewed effusion of serum. The dissections of patients who, after an attack of this disease, have died of some other affection, show that when a radical cure takes place, it is through adhesion of the pericardial surfaces, which occurrence the author believes, however, to be much rarer in this than in other forms of pericarditis. He thinks that stimulating injections might possibly conduce to this favorable result, especially as it has appeared to him that the entrance of a certain quantity of air is productive of no bad result, but even seems to stimulate the membrane to a healing action.

In the four cases which were cured by paracentesis, the operation was only once performed. It was repeated (after the lapse of seventeen days) in one case only, and in this the result was unfavorable. He seems to think that if it were performed at an earlier period, it might be more frequently and permanently successful; but he has not thought himself justified in attempting this, having only operated in cases altogether desperate.

[The same disease has been described by Dr. Seidlitz, of St. Petersburgh, under the title of Hemorrhagic Pericarditis. Vide Forbes's Brit. and For. Med. Rev., vol. I, p. 262.]

SECT. V.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

ART. 29.—*Extracts from Professor Andral's Lectures on General Pathology.—Semeiotics of the Digestive System.*

(*Medical Times.*)

1. *Signs furnished by the tongue.*—From the modifications brought on by disease in the circulation of the tongue arise various changes of colour; for instance, a redness, which may be general or limited to the edges, apex, or centre of the organ; it may occupy only the papillæ, and at the same time its surface may be either dry or moist. The surface of the tongue may be smooth, as after desquamation of the epithelium; together with a change of colour, an alteration of size is sometimes observed; diminution, for instance, with redness, is indicative of disease of the stomach. The heat of the tongue may be increased, or may fall below its average standard; and in this latter case the organ acquires a purple hue, as in asphyxia and the blue period of cholera. Blood may also be extravasated on the tongue, and, drying up, leaves a black, fuliginous deposit on its surface. In chlorosis, on the contrary, the part is paler than during health.

The secretions of the tongue may also be altered from the effects of illness. We find it sometimes dry, at others more humid than usual. and occasionally viscid. Universal dryness of the cavity is also observed, without being caused by diseases, as in persons who sleep with their mouths open, and may also proceed from moral causes affecting the nervous system. From the deposition of mucus, of bile, or of blood, the tongue may acquire a white, yellow, green, or even a black colour. Accidentally, particularly when vigorous abstinence is observed, the organ may acquire an unnatural colour from contact with various substances—wine, for instance; when a yellow or white deposit has formed, the tongue is always acid, the saliva remaining alkaline. The centre, edges, or apex of the organ may be the seat of morbid deposits. It is frequent to observe red specks on a white tongue, or to see its edges red and centre white. Abundant mucilaginous and warm drinks, abstinence from food, and relaxation of the bowels from medicine, facilitate the deposition of these morbid secretions, to which some individuals are more predisposed than others.

Changes of the special or common sensation of the tongue are also observed; a sense of heat generally accompanies removal of the epithelium. Neuralgia is also met with, and taste may be diminished, abolished, or perverted.

The movements of the tongue are impeded by its being swollen or dry; when the nervous system is deeply affected, its motions may be tremulous, irregular, uncertain; they may even be abolished altogether, or only on one side.

Let us now examine the signification of these various symptoms in the different classes of diseases. In continuous pyrexiæ, the tongue furnishes more signs than in the intermittent; it assists in the distinction of forms, of complications, and of different degrees of severity of

fevers, and leads to some therapeutic indications. In typhoid fever, for instance, the tongue is at first uniformly white, or dotted with red specks, and is generally humid, broad, and soft. In favorable cases, this appearance persists throughout the disease, but may also vary; in the saburral form the deposits become thicker, and purgatives are indicated. When at the same time the apex and edges acquire a bright red colour, the exhibition of stimulants should be more guarded; the deposits may also disappear, and the tongue become uniformly red, being at the same time humid or dry. The cases in which these successive modifications are noticed are generally unfavorable, and stimulants would increase their severity. At a later period a black crust forms on the tongue, from extravasation of blood, and the epithelium breaks. It is a generally true remark that dryness and a dark coating of the surface of the tongue correspond with diminution of vital power, alteration of the blood, and depression of the nervous system, and that in such cases bloodletting should be carefully avoided.

The black colour and desiccation of the tongue may appear rapidly during any acute disease, in certain unfavorable conditions of the system. Thus, we often observe it in the phlegmasiæ of aged subjects and in typhoid fever; the tongue gradually regains its natural colour and appearance during convalescence, but, until it has become quite healthy, some anxiety is justified. Such are the general rules: but, exceptionally, we find in fever that the tongue may remain natural throughout the disorder; this, however, is of sufficiently rare occurrence to render the accuracy of the diagnosis doubtful. The tongue is also found sometimes to have returned to its natural state, although the recovery does not progress—a circumstance which depends upon the continuance of the intestinal eruption. In eruptive fevers, the alterations of the appearance of the tongue chiefly depend upon complications. In scarlatina, however, it acquires often, in the incipient stage, a bright scarlet colour, which may persist during the eruption, and even outlive it. The epithelium peels off, and the congestion of the fauces being propagated to the tongue, causes the special redness observed in scarlatina. During variola, dryness, swelling, and a black colour of the organ usually denote a serious complication; it may be occupied by pustules, or remain a long time dry—a sign of a very unfavorable nature, unless the nares are impervious to air. Intermittent pyrexiæ are not accompanied by any remarkable change of the tongue; during intense chills, however, the tongue may be cold and livid, as in algid fever; in the stage of heat it becomes red and sometimes dry, but invariably recovers its natural appearance during the sudoral stage of each paroxysm.

Inflammatory congestion of the stomach is usually accompanied by redness of the tongue; but if the inflammation has been so rapid in its progress as to disorganize the viscus in a short time, the tongue may remain perfectly natural. Thus, during the last summer, we met with a case in which, although six gangrenous eschars had formed in the stomach, the tongue had not departed in the least from its usual appearance. In chronic gastritis the tongue is more or less dry and red, and its papillæ congested. In that form of bilious synochus called in France "embarras gastrique" the tongue is constantly covered

with a uniform layer of white deposit, and is at the same time broad and soft: emetics and purgatives rapidly relieve this condition of the stomach. The perfectly natural aspect of the tongue is truly remarkable in cancer of the stomach, particularly during the first period of the disease, when cancer occupies the submucous cellular tissue. When the mucous membrane is invaded, the tongue sometimes becomes red and dry, and after repeated hematemesis pale and colourless. In gastralgia, the tongue preserves its natural characters; but if the neurosis has been consequent upon chronic gastritis, the papillæ of the tongue may have acquired a degree of hypertrophy which may cause some hesitation in the diagnosis. In acute enteritis, colitis, dysentery, colica pictonum, the tongue is not modified, unless a complication be present. In cholera, during the blue period only, the tongue presents a special appearance, which we have already noticed.

In diseases of the organs of circulation the tongue remains natural, unless considerable difficulty exists to the return of venous blood to the heart. In phlebitis it presents the same appearance as in typhoid fever—the black sanguineous coating, which always points to a great depression of vital powers, and to alteration of the blood.

In acute thoracic disorders, pneumonia for instance, no signs can be extracted from the appearance of the tongue. In the aged, pneumonia is usually accompanied by the formation of dark crusts of desiccated blood, which positively counter-indicate the use of the lancet. In consumption the tongue is natural: at the close of the disease, however, it often becomes the seat of a pultaceous, pseudo-membranous secretion, by which the fatal termination of the case is generally ushered in. In pulmonary emphysema, when respiration is very laborious, a beginning of asphyxia may be observed, when the tongue assumes a bluish tinge, and its temperature at the same time descends below its average standard.

In diseases of serous membranes the tongue undergoes no change; indeed, it is remarkable to see that organ preserve a natural appearance, in spite of the obstinate vomiting and febrile excitement which accompany peritonitis. In icterus the tongue seldom becomes yellow, whilst the velum is, on the contrary, tinged with bile. Maladies of the urinary organs readily modify the aspect of the tongue: in vesical catarrh, for instance, a dry, fuliginous tongue is not unusual.

When the nervous centres are the seat of morbid change, the sensibility and motility of the tongue are often modified. Its sensibility is not much altered by affections of the brain, but may be more so by diseases of the nerves; thus exquisite pain, or anæsthesia of the tongue, may result from an alteration of the fifth pair of nerves, and the organ may lose common or special sensation. Paralysis of motion of the tongue is the sign of many cerebral disorders. In general, the apex of the tongue, when caused by disease of one cerebral hemisphere, is deviated towards the paralysed side. During the first days which follow apoplexy, it often happens that the tongue cannot be protruded from the mouth. In paralysis of the insane (an improper expression, that form of paralysis not being special to the demented), the first symptom of the disease is stuttering and difficulty of utterance; the diminution of muscular power in the limbs shows itself only later; and,

in proportion with its progress, the intellect is observed also gradually to grow weaker. Paralysis of the tongue may be likewise produced without any physical change in the nervous centres—in cases of hysteria, for instance. It is always important to ascertain if paralysis of the face be the result of cerebral hemorrhage or the effect of cold upon the portio dura; when paralysis is idiopathic, the tongue is never deviated; on the contrary, when distortion of the countenance is symptomatic of cerebral disease, the tongue is generally more or less deviated to one side.

2. *Signs furnished by exploration of the intestines.*—The sensibility of the intestines may be increased by disease; it is more increased, however, in colitis than in enteritis. In subjects affected with typhoid fever we observe great differences in this respect, some experiencing little or no pain; others, on the contrary, suffering considerably on the slightest pressure over the abdomen, and particularly over the ileo-cæcal region; these differences are to be explained by the more or less superficial nature of the ulcerations; when they are deep, and repose upon the peritoneum, they are usually accompanied with great tenderness of the abdomen. In the enteritis which is so frequently observed during the last stage of consumption, the pain is sometimes very great, for the reason above stated. In acute colitis, dysentery, for instance, the patients complain of great pain, not precisely on pressure, but in paroxysms; the sufferings can be traced from the cæcum to the rectum, and cause a sense of weight and spasmodic contractions of a very distressing nature. In chronic colitis more pain is present than in chronic enteritis. Persons who have had dysentery sometimes preserve a morbid sensibility of the intestines, and their motions are most painful, particularly when the bowels are slightly confined—a state of things which requires the combined exhibition of aperients and narcotics. Intussusception is also productive of much suffering, and is attended with obstinate vomiting and other symptoms of strangulation. Accumulation of solid matter or of gas may be equally productive of pain; but tubercles, or cancer of the intestines, do not cause pain; except, indeed, cancer of the rectum. We should also add, that in cancer of the intestines pain is always observed whenever the disease causes obstruction of the tube, and prevents the progress of the alimentary bolus. Piles, occasioning congestion of the rectum, may also occasion intestinal suffering; and the burning pain which attends fissura ani is special to that malady.

Most intestinal pains bear the name of colic, to which is superadded an epithet—bilious, inflammatory, nervous, &c.—to designate its nature. Nervous colic, or enteralgia, may arise spontaneously, and is remarkable sometimes by its extreme intensity and the faintness which it produces; it is occasionally the result of rheumatism; and in the disease called "colic of Madrid," it is due to the sudden changes of temperature frequently noticed in the climate of that city. In the neighbourhood of the Ganges a similar form of colic is also observed, under the influence of the same causes. In colica pictonum, enteralgia is also present; it is not always relieved by pressure, but pressure certainly diminishes the sufferings of the patient during their exacerbations. The form of the abdomen in this disease is not changed, nor its walls

retracted, as it has been so often erroneously stated. Nervous colic has been known to assume an epidemic form, at sea, for instance, after the prevalence of cold winds. In the colic caused by copper the pain is also very great, but is accompanied by diarrhœa, and the disease certainly participates more of the nature of inflammation than of that of neurosis.

3. *Signs furnished by the alvine evacuations.*—These evacuations may escape from abnormal orifices, from fistulæ situated on the abdominal walls, or from openings into the bladder, vagina, &c. The anus may be imperforate in newborn children, &c. The stools may be suppressed in intestinal disease, at the outset of entero-colitis, or, after diarrhœa or purgatives, in enteralgia and colica pictonum; they also are absent when the passage through the intestines is obstructed, whatever the cause of the obstruction: in cerebral or spinal disease, occasioning paralysis of the muscular coat of the intestines; or when spasmodic contraction of a part of the intestines interferes with the passage of the matter contained within their cavity. In diseases not affecting primarily the bowels we also may find suppression of the motions; thus the bowels are usually constipated in peritonitis, or diseases of the stomach, &c.

The increase of the alvine discharges bears the name of diarrhœa. Thus, in enteritis, whenever the follicles are enlarged, diarrhœa generally appears; this we observe in chronic diarrhœa, in cholera, &c. These diarrhœic stools may consist of mucous matter, or of a bilious flux, which does not by any means require intestinal inflammation for its production, but may simply result from increased hepatic secretion. In other instances the increased number of the motions is caused entirely by a greater activity of the peristaltic contractions of the intestines—a fact we often notice as a consequence of mental emotion, and in the diarrhœa of children without the interference of inflammation. The quality of alvine discharges may also be modified. They may, for instance, contain undigested articles of food: when the intestines are irritated in one point, it is a fact demonstrated by observation that gastric digestion is incomplete, and allows unaltered nutriment to pass into the bowels: again, when the stomach is incapacitated by disease from performing chymification. In children, lientery, as this form of malady is termed, is not unusual, and milk is expelled in solid masses with the fæces. When the fæces contain no bile, they are soft and ash-coloured; this symptom is always connected with the presence of some obstacle to the free circulation of bile in the ductus choledochus or hepaticus. Diminution of the biliary secretion also causes irregularity of digestion, costiveness, and change of colour of the fæces; this state of things, not sufficiently noticed in France, has always excited much, perhaps too much, attention in England. Bile may also be discharged too copiously into the bowels, and communicate to the stools a dark-green or yellow colour. This is generally indicative of intestinal irritation, and may be connected with a morbid state of the liver. The green colour of the expelled bile is due to the modification of that fluid by the acescent state of the intestinal mucous membrane. Biliary discharges are frequently observed in spring and summer; they are even endemic in equatorial climates. The evacuations may be of a mucous

nature: in dysentery, for instance, the stools are constituted by mucus tinged with blood; the mucus may be very consistent, and has been in that state mistaken for fragments of tænia, or it may be liquefied, and even puriform. In some morbid cases a watery discharge is observed, analogous, perhaps, in nature to the perspiratory fluid secreted by the skin.

The stools may also contain substances which are not usually met with in the intestines; a portion of intestine, for instance, detached by gangrene may be expelled; fragments of false membranes are sometimes rejected. Blood, when it has been recently extravasated, may pass with all its physical characters into the motions; but when the internal hemorrhage is less recent, it generally communicates to the evacuations a black colour. The former is observed in piles, dysentery, &c.; the latter in typhoid fever, and cancer of the intestines or of the stomach. The rice-water stools of cholera have been said to be constituted by the serum of the blood, and on this hypothesis an ingenious theory of the disease has been constructed. The fluid of these motions contains, however, no albumen, and, therefore, the theory falls to the ground; as to the white particles which float in the fluid, they are formed of innumerable corpuscles, furnished with very distinct nuclei and nucleoli, and are perfectly analogous to the corpuscles of pus. Pus is also found in the alvine discharges, and is always the symptom of a certain number of well-determined maladies; it is found in ulcerous colitis and in advanced cancers; in abscess of the liver and ovary; and may result from the opening into the intestines of purulent collections formed in various parts of the pelvis. False membranes, detected in the stools, are the sure signs of inflammation of the intestines. Intestinal or hepatic entozoa, calculi, and foreign bodies may also be contained in the motions. Their colour is sometimes changed by various medicines: they are coloured green by calomel, and black by iron. Microscopic examination of the fæces in cancer would probably show them to contain cancerous cells; and crystals have been met with, which Dr. Remak, of Berlin, erroneously asserts to be special to typhoid fever.

Gases may be produced in the intestine, hence borborygmi, indicative of indigestion and enteritis; hence, also, tympanitis, which is produced whenever an obstacle interferes with the circulation of the contents of the bowels, or in fevers, when the nervous system participates in the general disturbance. It is a singular and unprecedented fact, that in typhoid fever it is not the diseased part of the intestines which is occupied by tympanitis, but the colon; in fevers this accumulation of gas is always a sign of the most unfavorable nature. In neurosis, tympanitis is also a common symptom; we find it in hysteria and in hypochondriasis.

By ocular inspection we detect many diseases of the digestive tube; meteorism, tumours, piles, cancer of the rectum, syphilitic sores, fissura ani, fistula, abscess, displacement of the rectum, &c. Palpation informs us of the presence of fluids and gas in the intestines, shows the presence of stercoral tumours or cancerous degenerations, spasmodic contraction, intussusception; and percussion permits us to ascertain correctly the volume and shape of tumours, &c.

ART. 30.—*On Chronic Amygdalitis, and the Treatment of Indurated Tonsils.* By Dr. J. NAUDIN.

The tonsils, by their situation, are often exposed to attacks of inflammation, which, after repeated occurrence, not unfrequently passes into a chronic state of induration. The disease is generally non-malignant, and affects both tonsils; carcinomatous induration being, on the contrary, much more rare, and affecting usually but one. The seat of this hypertrophy is neither the mucous membrane nor the cellular tissue, though their nutrition may also be altered, but in the glandular substance itself. The cause of the frequent occurrence of hypertrophy of glandular organs is, that possessing a supply of arterial blood infinitely greater than is necessary for their nutrition, a large portion of which is destined to supply the material for secretion, any circumstance which produces a suppression of this secretion causes the excess of arterial blood to become extended in the nutrition of the glandular substance, thereby inducing its hypertrophy and induration. Physicians are generally very neglectful of chronic inflammation of the tonsils, too often allowing the case to run on, and finally putting it into the hands of the surgeon for excision. The means, if any, employed with the view of reducing the tumours, are generally insufficient; and our author, instead of blisters, astringent gargles, iodine, &c., substitutes gentle cauterization, as employed in chronic inflammation of other organs. Instead of producing a slow progressive destruction of the tonsils, he aims at their preservation, and for this purpose employs a solution of nitrate of silver, 3 gr. to ℥j of water, increasing the strength by 3 gr. up to ʒij of the nitrate, in the same quantity of water, and also applying the solid caustic to the surface of those hollows which usually exist in those tonsils, so that all parts may be equally affected. During one sitting the tonsils are painted twice or thrice; the mouth is then well washed with water.

This cauterization must be repeated every two or three weeks, until the tonsils are restored to their normal size, and then gradually discontinued; it produces no ill consequences, and even children speedily return to their play. Should the parts become accustomed to the caustic, it must either be discontinued for a time, or another substituted, as Lugol's diluted solution of iodine. In two cases related by our author, nitrate alone was employed. Both, æt. 13 and 14, had been affected for years, and were cured in two and a half to three months; in a third case, that of a girl, æt. 11, the disease was extensive and obstinate, requiring four months' use of the caustic, besides the use of Hyd.Potass. and iodine internally, and as ointment. In all these cases no return has been observed after the lapse of years, and the previous disposition to inflammation of the tonsils has been extinguished.

Journ. de Toulouse, Juin et Juillet, 1846.

ART. 31.—*Ulcerations of the Colon from the presence of a Calculus—Peritonitis—Death.* Case by Mr. SNAPE.—A man, æt. 20, had frequently complained of constipation, but had always been relieved by cathartic medicine. When seen by Mr. Snape, he was complaining of

the obstinate state of his bowels, attended as before with pain, and drew his attention to a large hard tumour, situated in the *left hypochondriac* region, which was quite immoveable. There was no tenderness on pressing the abdomen generally; tongue clean; pulse 80; appetite good; no thirst; urine natural in quantity, but depositing a sediment of lithic acid. He ordered a farinaceous diet, a bran-poultice to be applied to the abdomen, and exhibited castor-oil emulsion, with a little hyoscyamus, every four hours. On visiting him the next day, he found his treatment had had the desired effect; the bowels had been freely relieved; pain had vanished, and he stated that he felt better than he had done for six months. Upon examining his abdomen he could *not now find even a trace* of the tumour, which led him to hope that it had been simply a collection of hardened fæces, which were now got rid of. For several days he continued taking the emulsion once or twice, which had the effect of keeping him (as he said) quite well.

About a fortnight after his admission he again complained of not being so well, having for some days given up taking his medicine. Upon examining his abdomen now, Mr. Snape again felt the tumour of the same size and hardness as before, but situated in the *umbilical* region. He resorted to the same treatment which had succeeded before, giving, in addition, hyd. c. cret. gr. v. at night. The next day he discovered the tumour in the right hypochondriac region, but his bowels had acted properly, and he stated that he felt quite well. Day after day he found the tumour in some fresh spot corresponding to the course of the colon, until Thursday, the 28th ult., when again it was not to be felt, and the patient expressed a desire to go out and resume his work. Mr. Snape advised him to stay a few days longer, to which he assented, although he said "he felt quite well, and able to do anything."

On November 1st he was found in a state of collapse, bedewed with perspiration, abdomen tympanitic, pulse small: he died the same day.

On examining the cavity of the abdomen, intense inflammation of the peritoneum was found; the omentum and intestines were closely matted together, and there was copious sero-purulent effusion. In the colon extensive ulceration was found, and in one portion of its course a perforation, through which fæces had escaped. Just above the sigmoid flexure an enormous calculus, measuring 10½ inches in its long circumference was observed, which Mr. Snape supposes was a biliary concretion, increased in size by subsequent deposit. The common duct was dilated sufficiently to admit three fingers.

Medical Times, Nov. 13.

ART. 32.—*Acetate of Lead in Tympanites.*—Dr. Badeley mentions a case of temporary intestinal obstruction, with excessive tympanitic distension, in which the best effects followed the exhibition of the cetate of lead. Purgatives had failed to procure an evacuation. Vomiting supervened, with hiccough, and the coils of distended bowels ould be felt through the abdomen. Feeling convinced that the sympoms depended upon a loss of tone in the muscular fibres of the alimenary canal, alum was ordered, with turpentine injections, and having

failed, three grains of the acetate of lead, with one sixth of a grain of morphia, were given every four hours. This was soon followed by the expulsion of large quantities of gas, and copious dejections. The hiccough and vomiting declined, and the man was soon convalescent.

Lancet, Jan. 8.

ART. 33.—*Treatment of Flatulence.* By Dr. DICK.—When the tongue is pale, when there is no tenderness on pressure at the epigastrium, or in the right hypochondrium, when there is no thirst, no dry heat of skin, and no quickness of pulse, flatulence requires carminatives, bitters, and even stimulants. Thus the patient may be directed to use freely any of the following waters:—cinnamon, fennel, cassia, pimento, peppermint, pennyroyal, mint, Cologne, lavender, caraway, aniseed, dill, balm; to these some of the respective tinctures may be added. With the carminative waters just named, one or more of the following bitters may be given—camomile, quassia, columba, absinthium, rhubarb, to which may be added valerian, castoreum, and camphor. As an expellent of flatus existing in the bowels, assafœtida, or oil of turpentine, the former given by the mouth, or in injection, the latter in injection, are superior to all things else, excepting, perhaps, the infusion and spirit of armoracia.

Secondly. If flatulence is accompanied with a dry and preternaturally red tongue and fauces, with thirst, heat of skin, tenderness of epigastrium, scanty and high-coloured urine, heartburn, &c.—in short, with symptoms of inflammatory irritation of the gastro-duodenal mucous membrane, then alteratives are clearly indicated, or rather such substances as promote the secretions of the mucous membrane; these are ipecacuan, sulphur, potassio-tartrate of antimony, the various preparations of mercury, magnesia, iodine, nitrate of silver. These we would be disposed to give a trial to successively, almost in the order in which we have named them. But a great variety of other means may be tried, and among these the following, in those cases in which flatulence is accompanied with obvious torpor and fulness of the liver, as well as with gastric irritation. The wine of colchicum, for example, may be given with a few grains of the sulphate of potass, or if there are acid eructations and heartburn, with carbonate of magnesia; the infusion or tincture of arnica may be given in the same combinations, and so may the powder and extract of cusparia. In short, instead of perplexing our minds with the confused subdivisions of authors, whose classifications betray they had no clear and scientific notions of the proper treatment of flatulence, the simple point to be ascertained and kept in view is, whether flatulence (always a mere symptom) is or is not accompanied with inflammatory irritation, is or is not attended with stomachic debility—and according as we decide these queries, we adopt the former or latter modes of treatment above enumerated.

When the eructations are acid, the most of vegetables in common use, except the cereal, must be abstained from. As Dr. Prout remarks, that, in the treatment of saccharine diabetes, he has seen the incautious use of one or two ripe pears undo all the apparent improvement of weeks or months of skilful medicinal and dietetic management, so it often happens in persons subject to flatulence, that a very minute and appa-

rently trivial indulgence induces not unfrequently the utmost degree of uncomfortable gaseous distention, with its attendant sufferings, headache, &c. This is less to be wondered at, when it is considered that, according to Dr. Hales, the quantity of gas extracted from an apple, in the course of its undergoing the fermentative process, amounts to nearly 700 times its bulk.

Cases occur in both sexes of a sort of passive flatulence, so to name it, namely, meteorismus, unattended with any marked signs of stomachic or intestinal irritation, or with much discomfort, excepting the frequent necessity of getting rid of the flatus. In such cases, the flatus is usually nearly or wholly free of ill odour, and probably consists of nitrogen, oxygen, and perhaps carbonic acid, in nearly the proportions of atmospheric air. The treatment of these cases I have found more troublesome than their simple nature would lead, *à priori*, to expect. One or two have entirely baffled every form of treatment adopted, and the last accounts from one patient, a clergyman in the south of England, inform me that the annoying affection continues just as it was when he first put himself under my care, nearly two years ago.

There can be little doubt that the occurrence of flatulence is immensely favoured by the temperature at which many persons swallow soups, coffee, tea, &c., and the debilitating effect which large and systematic potations of the latter have on the functions and secretions of the gastro-enteric mucous membrane. The truth is, that cold, applied in drinks of low temperature, and even in iced fluids, is not less remarkable as a *stomachic tonic*, than is the *external* application of cold as a tonic of the sentient and motor nerves.

Lancet, Nov. 20, 1847.

SECT. VI.—DISEASES OF UNCERTAIN OR VARIABLE SEAT.

ART. 34.—*Therapeutical Action of Phosphate of Ammonia in Gout and Rheumatism.*—Dr. Edwards confirms the advantages of this medicine in certain diseases, which appear to depend upon the presence of an excess of lithic acid, or lithates in the blood. He has used it in acute rheumatism, when the inflammatory symptoms had subsided.

In *chronic articular rheumatism*, he has used it after the bowels have been well cleansed by calomel or other purgatives, or, if the constitution is vigorous, the vascular action strong, and heat high, after venesection, and has got rid of these attacks much sooner than formerly. In muscular rheumatism, whether of the acute or chronic form, he has employed this remedy with greater success than in any other. After the action of the intestinal canal was somewhat regulated, he has generally been able, without further preface, to administer it in lumbago, pleurodynia, ischio-gluteal rheumatism, epicranial, cervical, and facial rheumatism. In these he has seen it of peculiar service, and in one case of rheumatic ophthalmia, after the inflammatory symptoms had been reduced, and the patient was annoyed with the pains about the eye and brow, in which he administered it, it was attended with alle-

viation and subsidence of the pains within sixteen hours of being commenced.

With respect to gout, the author's opportunities of applying this remedy have been less numerous than in rheumatism, yet numerous enough to enable him to speak with certainty of its great value as a remedy; when given in the doses mentioned, it produces but little sensible operation beyond that most important of all, the gradual (in two or three cases I have seen it act almost instantaneously), diminution of the distressing symptoms. With this view, he has always prefaced its use by well cleansing out the bowels with proper aperients, and then ordering the phosphate every eight hours in simple water, or occasionally in conjunction with a bitter infusion and spirits of nitre, the best infusion, perhaps, being that of the serpentaria, as it determines to the skin. Attention, both before and during the administration of the phosphate, to the due performance of the various functions connected with the primary assimilating processes is of great moment. A slight alterative aperient of mercurial pill and compound rhubarb pill, given every other night, twice or thrice, has answered well. He has seldom meddled with the inflamed part, beyond ordering perfect rest, and exciting perspiration by means of fleecy hosiery or flannel, covered over with oil-silk, occasionally a light anodyne poultice or narcotic fomentation, and of course a consistent diet, and abstinence from everything irritating both of body and mind, were points duly remembered. In the third case in which he employed the salt, it was strikingly beneficial. A poor man, a dispensary patient, a very gouty subject, had had an attack for two or three weeks, being confined wholly to his bed or arm-chair. He had tried most of the renowned remedies, with little or no relief. On a Wednesday afternoon he commenced taking the phosphate of ammonia (ten grains every eight hours), and on the Friday morning following he attended at the dispensary, walking each way, and informed Dr. Edwards he had lost all pain, and that the swelling and stiffness were rapidly subsiding. To use his own words, "the second dose of this last mixture had acted like a charm." On the Tuesday following he began his work again as a mason. Dr. Edwards ordered his continuance for a short time of the salt, combining it with a bitter infusion, and the regular use of a mild aperient.

This latter point of continuing the remedy a short time, Dr. Edwards considers a matter of importance, paying at the same time particular attention to the condition of the digestive organs. With regard to the value of this salt as a solvent upon the gouty concretions when formed, his experience does not enable him to speak with any certainty, but his observations lead him to state in a positive manner its powers to arrest the increase, and perhaps the formation of them. So great is the solvent action of the phosphate of ammonia, after being introduced into the system, upon uric acid, that he is almost inclined to think calculous disease of that nature may be very greatly benefited by its employment. In lithic-acid gravel he has frequently used it, and experience has taught him that it causes a very rapid decrease and disappearance of the red crystal-line sediment; it quickly reaches the urine (as he has testified oftentimes upon his own person) when

largely diluted. Mr. Alexander Ure* has recommended the benzoic acid for the same purpose. Dr. Edwards has used it many times, but never with so marked a result as with the phosphate of ammonia.

Prov. Journ. Nov. 27.

Art. 35.—*Cold Applications, with Opium and Quinine, in Acute Rheumatism.*—In a case of acute rheumatism, complicated with nodes on the shins, and syphilis, an ineffectual attempt to obtain the specific effects of mercury had been made in the commencement of the case. When in health the patient weighed 220 pounds. He had been confined to bed four months, and when admitted was unable to bend the knee, wrist, elbow, or finger-joints, without great pain. Cold-water dressings were kept constantly applied to the painful joints, half diet was allowed, and he took at bedtime, every night, two pills, composed of four grains of opium, and four grains of sulphate of quinine. On the tenth day of treatment he left his bed. His weight was 136 pounds. At the expiration of twenty days the pain had disappeared; the quinine and opium were discontinued. There still remained thickening and stiffness about the joints. For this condition, phosphoric acid in syrup of Prunus Virginiana was prescribed, as follows:—℞ Sol. acid. phosphorici, dr. ij; Syrup. pruni virg., q. s. ut. ft. oz. viij; M. Capt. oz. ss, in Aq. font., oz. iv, quarta quaq. hora. Under this treatment the functions of the joints were perfectly restored, and the patient gained twenty pounds in weight in thirty days, and the nodes disappeared.

While taking the quinine and opium, the bowels, which had been previously constipated, were regularly moved once in twenty-four hours; but under the use of phosphoric acid, it was found necessary to occasionally prescribe castor oil and an anodyne at night.

Dr. Ruschenberger, of the U.S. navy, who reports the case, has been in the habit of treating acute rheumatism, upwards of two years, by cold applications to the hot and swollen joints, and administering at night from three to six grains of opium, with an equal quantity of sulphate of quinine, regulating the quantity by the condition of the pupil alone. With a dilated pupil, he found patients to bear the largest dose without inconvenience, and he has not yet met a single case in which pain was not completely removed in from twenty-four to thirty-six hours, provided the attack were recent, or of not more than a week's duration. Large doses of opium, especially in combination with sulphate of quinine, do not tend to constipate, but rather to relax the bowels. After the pain is removed by the opium, he then resorts to the use of the iodide of potassium, in medium doses, say from five, increased gradually to ten grains, three or four times daily.

Passed Assistant-surgeon S. Holmes, who witnessed the results of this practice in his hands, has made trial of it on the coast of Africa, and with entire satisfaction.

American Journ. of the Med. Sciences, July.

* Med.-Chir. Trans., Vol. xxiv.

SECT. VII.—DISEASES OF THE URINARY SYSTEM.

ART. 36.—*Extracts from Professor Andral's Lectures.—Semeiotics of the Renal System.*

(*Medical Times*, Feb. 19, 1848.)

We now turn to those signs of disease furnished by the urinary apparatus. We described in the first series of these lectures the alterations of urine, and will now only consider them as symptoms of disease. The quantity of the renal secretion may be increased, as in polydipsia—a disease which may be idiopathic, or connected with diabetes mellitus. The urine is diminished, on the contrary, in febrile excitement, and when abundant perspiration is produced; the secretion may be altogether suppressed—a fact chiefly observed in Asiatic cholera. The colour of urine depends in a great measure upon the proportion of water which it contains; if the secretion be bloody, the urine is of a dark red colour. In hysteria, in chlorosis, the urine is pale, because the solid elements are less abundant; in hysteria, the colourless appearance is remarkable and unexplained. Urine may be coloured by the presence of blood or bile: the blood may have oozed from the urethra, or come from the bladder, either from idiopathic hemorrhage, vesical calculus, or cancerous disorganization. When the blood comes from the kidney it usually indicates the presence of concretions, and sometimes, but rarely, precedes the development of albuminuria. Hematuria may finally be symptomatic of a general tendency to hemorrhage—as scorbutus, purpura, typhus, yellow fever, &c. Bile is found in the urine only when jaundice is present, or a very short time before its appearance. When the greenish colour is not distinct, it becomes so by the addition of a few drops of nitric acid. The odour of urine is never fetid in disease, except when it has sojourned in a diseased bladder. Some substances communicate a peculiar odour to the secretion, asparagus and turpentine, for instance. The taste of urine is sweet only in diabetes mellitus. In all diseases, as well as in health, the urine remains acid or neutral. If the bladder be diseased, or the urine be allowed to remain a long time without being removed, it may acquire an alkaline reaction. Thus, in disorders of the spinal cord, in which the bladder is paralysed, the urine becomes alkaline; but in other maladies this is never the case; even in albuminuria, the renal secretion remains acid. Accidentally, during the course of disease, for one or two days, and under the influence of special articles of food, the urine may cease to be acid; but not in any continuous manner, nor for any length of time. During disease, urine may spontaneously, or from the influence of chemical reagents, lose its transparency. Let us examine the deposits in these two different cases.

When the urine becomes spontaneously opaque, the disturbance may be general throughout the fluid, or form at the bottom of the vase sediments and deposits, or assemble in the middle or on the surface in

the shape of clouds or eneoremata. The latter merely betray the presence of mucus in a healthy or almost healthy state; they are observed in leucorrhœa, in feverishness, and sometimes in health. Troubled urine (urine jumenteuse) indicates the presence of abundant mucus, or of the acid lithate of ammonia; two circumstances which can be readily distinguished from each other; heat and nitric acid dissolving the lithate, and exercising no action upon mucus. Excess of lithate is observed at the incipient stage of many diseases—in dyspepsia, feverishness, &c. We will now enumerate the various sediments of urine: 1st. Uric acid forms a sediment of lozengic crystals, and is characteristic of red gravel. 2d. The phosphate of ammonia and magnesia, or phosphate of lime; these substances depose spontaneously in the urine in white gravel, but are thrown off in the bladder when pus is in contact with the urine. It is this triple phosphate which is not unfrequently observed upon the surface of catheters. 3d. Lithate of ammonia: white, when in a pure state; pink, when mixed with a certain colouring matter, formerly called rosaic acid, as in cases of intense febrile excitement attended with profuse perspiration, or of cirrhosis accompanied by considerable ascites. This deposit, which dissolves on the addition of nitric acid, or the application of moderate heat, was for a long time erroneously looked upon as critical in the course of febrile diseases—an opinion disproved by rigorous observation. 4th. Blood may be observed in urine, and its nature is in general readily ascertained. 5th. Mucus, when abundant, assembles at the bottom of the vase which contains urine, and indicates vesical catarrh and cystitis. It is not removed by nitric acid, and is very slightly diminished by heat. 6th. Pus, when found in urine, always communicates to it an alkaline reaction and an ammoniacal odour. The pus may have originated in the urethra, bladder, or kidneys, or proceed from some abscess which has opened into the urinary cavities. 7th. False membranes are sometimes deposited from urine, a fact not uncommon after the application of the emplastrum lyttæ to any part of the skin. 8th. The urine may present deposits which attest the presence of cancer in the bladder; and sometimes the urine is altogether replaced by a fœtid liquid, a forerunner of a speedily fatal termination. 9th. Spermatic matter may be deposited in the renal secretions, but its nature must be tested by the microscope. And, finally, the urine may contain fæces, when a morbid communication has accidentally been established between the lower part of the digestive tube and the urinary organs.

All these deposits may spontaneously be formed in the urine; but others may also be obtained artificially, and are of considerable value to the diagnosis. Thus, for instance, lithate of ammonia may exist in urine without being spontaneously deposited. The addition of two or three drops of nitric acid cause the precipitate to form, and a few drops more of the acid dissolve it again. Nitric acid, and heat also, sometimes cause the coagulation of a certain quantity of albumen contained in the renal secretion. If the urine has become alkaline, heat alone, without the previous addition of acid, will be insufficient to cause coagulation of the albumen. Heat occasionally produces the forma-

tion of a slight deposit, which disappears with effervescence upon the addition of nitric acid. This deposit is constituted by carbonates; but we do not at present very clearly understand the cause or the mechanism of their formation. The discovery of the accidental presence of albumen in urine is a conquest of modern science; and Dr. Bright established that this fact was always connected with a variety of dropsy, in which the kidney is constantly diseased. Whenever for any length of time we have found the urine albuminous, we have always found, also, the kidneys altered in a manner which it is not our present object to examine in its various stages, degrees, and, perhaps, natures. This albuminous urine is pale and frothy; its specific gravity is much diminished, some of its solid elements, urea, for instance, ceasing to be excreted from the kidneys. In disease of the heart, when the kidneys are the seat of considerable congestion, the urine may also contain albumen in a temporary manner. In all these instances the debility of the patient gradually increases with the daily loss of albumen.

In diabetes mellitus, caustic potass, heat, or milk of lime produces in the urine a brownish deposit, consisting of glucosis, or grape-sugar. According to the quantity of the latter, the colour may vary from a lemon colour to a dark brown. The urine should, in the first place, be tested by heat, when albumen, if any be present, will be coagulated; after filtration the fluid should be submitted to contact with one of the above-named reagents, which will detect very small quantities of sugar. Trommerz's fluid (potass and tartrate of copper) has also been used for the same purpose, and forms in diabetic urine a precipitate, at first yellow and afterwards red, constituted by protoxide of copper. These various chemical actions should be completed by evaporating the urine to a syrupy consistency, and, by the addition of a ferment, endeavouring to establish alcoholic fermentation. M. Guévenne discovered in diabetic urine the presence of microscopic globules of ferment. In diabetes mellitus, the specific gravity of the urine is always increased, and oscillates between 1022 to 1044, 1018 being the average density of healthy urine. Its colour is usually pale, and its odour feeble, except when boiled, a distinct smell of burned sugar being then produced; when fermented, it exhales the peculiar smell of alcoholic fluids. Its taste is not always very distinct, and one of the best signs of the presence of sugar in the urine is the fact discovered by M. Biot, that it polarizes light to the right side. The observation has been fully confirmed by the researches of Bouchardat and Martin Solon. We should be aware that albumen deviates the rays of light to the left, and, therefore, when the presence of albumen coincides in the urine with that of sugar, the deviations may neutralize each other, and lead to an inaccurate appreciation of the quantity of sugar. It is, therefore, necessary to remove the albumen first, by coagulation and filtration, before the urine be tested by the polarimeter.

ART. 37.—*On Albuminuria independent of Renal Disease.* By Dr. FINGER, of Prague.—Among about 600 medical cases of various kinds in the general hospital at Prague, the urine was found to contain albumen in 155. Among these were—

		Albuminuria in
Tuberculosis	186 cases.	46
Typhus	88 „	29
Puerperal fever	46 „	32
Carcinoma	14 „	6
Chlorosis	6 „	2
Acute rheumatism	18 „	0
Ague	10 „	1
Pneumonia	33 „	15
Pleurisy	14 „	2
Peritonitis	6 „	2
Chronic catarrh	16 „	3
Diarrhœa	65 „	8
Disease of heart	18 „	7
Epilepsy	2 „	2

The remaining cases were 3 of chorea, 6 of paralysis, 2 of tetanus, and 3 of hysteria; in these no albumen was found.

Of the 46 cases of tuberculosis with albuminous urine, 35 died; in 19 of these there had been œdema of the lower extremities, leading to a suspicion of granular disease of the kidney, which was nevertheless found to exist in 2 cases only.

Of the 29 cases of typhus, 17 died; disease of the intestinal glands was present in all, combined in 2 cases with pneumonia; the kidneys were sound in all the cases. The albumen appeared in the urine generally from the 16th to the 25th day, while the disease was on the increase or at the height; in those which recovered, it uniformly declined and disappeared during the convalescence.

The large proportion of cases in which puerperal fever was accompanied by albuminous urine, is explained by the admixture of the urinary and lochial discharges; in 6 cases, however, which were fatal from peritonitis, and in which the kidneys were sound, the albumen continued to present itself in the urine after the disappearance of the lochia.

In 4 of the 6 cases of cancer, the albumen was evidently from the admixture of uterine discharges. The kidneys were sound in all.

In 9 of the cases of pneumonia, the albumen disappeared from the urine during convalescence. In 6 which died, the kidneys appeared sound.

Dr. Finger is disposed to conclude that in cases like the greater part of the above, where albumen appears in the urine along with a fibrinous or purulent exudation into some organ of the body, it is in consequence of these exudations being reabsorbed into the blood, and evacuated as effete matter by the kidneys. In support of this view he gives three cases where albumen appeared in the urine simultaneously with the formation of abscesses in different parts of the body; and in two of which it was observed to disappear rapidly on the abscess being opened, and the pus evacuated.

Dr. Finger speaks strongly of the necessity of caution in the diagnosis of diseased kidneys from the presence of albuminous urine, where the evidence derived from the history of the patient is from any cause not conclusive. He narrates two very interesting cases of patients admitted to the hospital, with all the usual symptoms of cerebral disorder from retained urea, in whom there was also a large

quantity of albumen in the urine; and which nevertheless, after death, presented no appearance of granular kidney. In one, there was slight puerperal peritonitis, and inflammation of the brain and its membranes, with two abscesses in the right hemisphere; in the other, there was inflammation and purulent deposition in the urinary passages, with obstruction of one ureter and impediment to the function of the corresponding kidney, which was very much distended. In both these cases the diagnosis of Bright's disease, which was the one arrived at, was unavoidable, from the absence of any history of the patients' illness, and the state of insensibility on admission.

In the two cases of epilepsy in which albuminuria was discovered, the albumen presented itself only after a convulsion, diminishing, and gradually disappearing, after the lapse of thirty-six hours. This observation is important in connexion with the cases recorded by Lever and others, of the concurrence of albuminuria with puerperal convulsions. *Präger Vierteljahrschrift.* 1847. No. IV.

Art. 38.—*Irritable Bladder from Tapeworm.*—The following case is reported by Mr. Tuffnell:—A man, of temperate habits, complained of excessive irritability of the bladder, with difficult micturition. His health had been good till three months previously, when he began to suffer from the usual symptoms of dyspepsia, with irritation of the rectum and hemorrhoids. These symptoms increased, and to them were added tenesmus and frequent calls to make water, which was voided in a twisted jet, and accompanied by severe straining, but no pain. He received temporary relief from taking opium; but he became emaciated, and his health had suffered severely before he applied for medical assistance. A small bougie when introduced was arrested, and grasped tightly by a stricture at the membranous portion of the urethra, the probable result of an attack of gonorrhœa, from which he had suffered some years before. The urine was highly acid, and loaded with lithate of ammonia. The prostate was of natural size, but very sensitive to the touch. The patient was ordered to rest in the recumbent position, to have a pint of tepid water injected up the rectum, night and morning, to relieve local irritation, and to take infusion of calumba with tincture of hyoscyamus, and liquor potassæ. the bowels at the same time to be evacuated by castor oil. Under this treatment he improved so rapidly that he resumed his usual habits at the expiration of a week. His symptoms, however, immediately recurred, and were as immediately relieved by his resuming his former treatment, with the horizontal posture. A second speedy recovery was effected; but he returned in a few days, suffering severely, and anxiously desiring an operation for his relief, being convinced that he suffered from urinary calculus. The irritation about the anus had now greatly increased, and he was observed at the same time to be frequently rubbing his nose, which suggested the idea of the possible presence of worms in the intestines. A purgative of turpentine and castor oil was accordingly administered, and the following morning a tapeworm, measuring thirty feet, was evacuated. All the former symptoms immediately subsided, the urine became clear and healthy and the patient was soon restored to permanent health.

Dublin Med. Press, Feb. 1848.

PART II.—SURGERY.

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

ART. 39.—*Constitutional Syphilis of Infants.* By MM. TROUSSEAU and LASEGUE, of Paris.

(*Monthly Journ. of Med. Science*, from the *Archives Générales de Médecine.*)

The authors consider it established that syphilis may be transmitted, either in its primary or secondary form, directly from the mother to the infant; but they hold that there is no proof of the transmission of tertiary lesions, except as a consequence of the primary or secondary forms.

They are disposed to deny the appearance of syphilis in the infant at birth, or at any period before the second week. They suppose the alleged cases of its earlier appearance to have been founded on misconceptions, either of accidental ulcerations or mucous discharges, which prove nothing with regard to the constitutional affection, or of a general cachectic aspect, which has been described with great confidence, but which MM. Trousseau and Lasègue consider as being too vague in its characters, and too uncertain in its occurrence, to form the basis of a diagnosis.

One of the earliest and most characteristic signs of the appearance of syphilis in the infant is a coryza, which begins at first with mucous secretion, followed by serous and purulent discharges, and by hemorrhage of greater or less frequency, and terminating in caries and deformity of the nasal bones. This affection they believe to be peculiar to syphilitic infants.

Almost equally characteristic is a particular discoloration of the skin, which becomes tarnished and loses its transparency, without, however, any preternatural turgescence or shrinking. The colour is unequally diffused over the face and trunk; the greater its diffusion, the less, generally speaking, is its intensity. This tarnished hue of the skin rarely lasts more than a week.

Next in importance and succession are the eruptions. On this point the authors remark, that it is impossible to found a valid diagnosis upon an eruption taken apart from all other symptoms; but that the concurrence of an eruption with other and less variable signs is sufficient to place the conclusion upon a firmer basis. The different characters supposed to indicate a syphilitic eruption are then discussed, and it is shown that neither the copper-coloured stains, nor the dark hue of the crusts, nor the circular disposition of the eruption, can at all be relied on in the diagnosis of infantile syphilis.

The above are the earliest and most characteristic symptoms; in the subsequent progress of the disease the infant becomes cachectic; accidental wounds assume an unhealthy aspect, and heal with difficulty; the

umbilical cicatrix is apt to remain open, and to become fungous. Sometimes, though by no means constantly, there is gradual emaciation; the violence of the internal disorder bearing no proportion to the intensity of the external signs. The infant does not take the breast readily; sleep is short and interrupted; it cries frequently, and without appreciable motive; and, concurrently with these symptoms, diarrhœa is established, which it is exceedingly difficult to subdue. The mouth and anus, where the mucous membrane joins the skin, are cracked and fissured, and the discharges by stool are often bloody. Under these circumstances the infant, impoverished and weakened in constitution, falls a victim either to the chronic disorder, to the reigning epidemic, or to some accidental acute disease. The fatal sinking is in general extremely rapid, and not preceded by the usual warning circumstances, and the inspection of the body does not explain the rapidity of the fatal termination. The most constant lesion is serous effusion into all the cavities.

ART. 40.—*Excerpta from 'A Treatise on Fractures in the Vicinity of Joints,' &c.* By Dr. R. W. SMITH, Dublin.

I. *Fractures of the neck of the femur.—Conclusions on their diagnosis and pathology.*—1. A slight degree of shortening, removable by a moderate extension of the limb, indicates a fracture *within* the capsule.

2. The amount of *immediate* shortening, when the fracture is within the capsule, varies from a quarter of an inch to one inch.

3. The degree of shortening, when the fracture is within the capsule, varies chiefly according to the extent of laceration of the cervical ligament.

4. It also varies according as the fracture is impacted or otherwise.

5. In some cases of intracapsular fractures, the injury is not immediately followed by shortening of the limb.

6. This is generally to be ascribed to the integrity of the cervical ligament.

7. In such cases, shortening may occur suddenly, at a period more or less remote from the receipt of the injury.

8. This sudden shortening of the limb is, in general, to be ascribed to the accidental laceration of the cervical ligament, previously entire, and is indicative of a fracture within the capsule.

9. The deposition of callus around the fragments is not necessary for the union of the intracapsular fracture.

10. When osseous consolidation occurs in the intracapsular fracture, it is effected by the direct union of the broken surfaces, which are confronted to each other.

11. The osseous union of the intracapsular fracture is most likely to occur when the fracture is of the variety termed "impacted."

12. In the intracapsular fracture the mode of impaction is different from that which obtains in the extracapsular.

13. The degree of shortening, when the fracture is external to the capsule, and does not remain impacted, varies from one inch to two inches and a half.

14. When a great degree of shortening occurs immediately after the

receipt of the injury, we usually find a comminuted fracture external to the capsule.

15. The extracapsular fracture is accompanied by fracture with displacement of one or both trochanters.

16. The extracapsular *impacted* fracture is accompanied by fracture without displacement of one or both trochanters.

17. In such cases, the fracture of the trochanters unites more readily than that of the neck of the bone.

18. The degree of shortening, in the extracapsular impacted fracture, varies from a quarter of an inch to an inch and a half.

19. The exuberant growths of bone met with in these cases have been erroneously considered to be merely for the purpose of supporting the acetabulum and the neck of the femur.

20. The final cause of their formation is the union of the fracture through the posterior intertrochanteric space.

21. The difficulty of producing crepitus, and of restoring the limb to its normal length are the chief diagnostic signs of the impacted fracture.

22. The position of the foot is influenced principally by the obliquity of the fracture, and the relative position of the fragments.

23. Inversion of the foot may occur in any of the varieties of fracture of the neck of the femur.

24. When the foot is inverted, we usually find that either a portion or the entire of the extremity of the lower is placed in front of the superior fragment.

25. In cases of comminuted extracapsular fractures, with fracture and displacement of the trochanters, the foot will generally remain in whatever position it has been accidentally placed; it may be turned either inwards or outwards, or there may be inversion at one time, and eversion at another.

26. Severe contusion of the hip-joint, causing paralysis of the muscles which surround the articulation, is liable to be confounded with fracture of the neck of the femur.

27. Severe contusion of the hip-joint may be followed, at a remote period, by shortening of the limb, and eversion of the foot.

28. The presence of chronic rheumatic arthritis may not only lead us to suppose that a fracture exists when the bone is entire, but also, when there is no doubt as to the existence of fracture, may render the diagnosis difficult, as to the seat of the injury with respect to the capsule.

29. Severe contusion of the hip-joint, previously the seat of chronic rheumatic arthritis, and the impacted fracture of the neck of the femur, are the two cases most likely to be confounded with each other.

30. Each particular symptom of fracture of the neck of the femur, separately considered, must be looked upon as equivocal. The union of all can alone lead to the formation of a correct opinion as to the nature and seat of the injury. (P. 110.)

II. *Fractures of the bones of the forearm, in the vicinity of the wrist-joint.—Corollaries.*—1. Fracture of the lower extremity of the radius,

close to the wrist-joint. with displacement of the lower fragment backwards, may, with propriety, be termed "Colles's Fracture."

2. Colles's fracture may be the result of a fall either upon the palmar or dorsal surface of the hand.

3. In Colles's fracture the carpus does not project towards the palmar surface of the limb, as has been stated by Sir Astley Cooper.

4. In this injury the head of the ulna projects at the inner border of the carpus, in consequence of the hand being carried in the opposite direction, "par une mouvement de totalité."

5. In consequence of this displacement outwards of the hand, the internal lateral ligament of the wrist-joint is stretched, and severe pain is felt below the head of the ulna.

6. The distortion which characterises Colles's fracture is the result of the combined action of the supinator longus, the extensors of the thumb, and the radial extensors of the carpus.

7. The presence of this deformity presupposes the integrity of the lower extremity of the ulna, and of the inferior radio-ulnar connexions.

8. In this injury there is scarcely any diminution in the transverse diameter of the forearm, the cylindrical form which the limb acquires being owing, partly, to effusions among the flexor tendons, but principally to the increase in the antero-posterior diameter of the forearm at the seat of the fracture, consequent upon the displacement backwards of the lower fragment.

9. In Colles's fracture the radius is usually broken from half to three quarters of an inch above its carpal surface.

10. In Colles's fracture the radius is generally broken transversely, with respect to the antero-posterior diameter of the bone; but the fracture may be oblique from above downwards and inwards, or downwards and outwards.

11. The external deformity would lead us to suppose that the radius had been broken very obliquely, even in those cases in which the fracture is accurately transverse, with respect to both diameters of the bone.

12. This apparent obliquity is owing to the threefold displacement which the inferior fragment undergoes, in consequence of which the aspect of its articulating surface becomes directed upwards, backwards, and outwards.

13. The opinion of Diday, that there is in this fracture an overlapping of the fragments, does not appear to be correct. Such an event has not been demonstrated in recent specimens of the injury, and in old cases the appearances are deceptive; but even in the latter, when the bone is divided from before backwards, the fracture is usually found to have been transverse. In such cases overlapping could not happen, and the possibility of its occurrence is difficult to be conceived, even in oblique fractures, as long as the ulna and the radio-ulnar ligaments remain uninjured.

14. In Colles's fracture the posterior surface of the limb is shortened; but the anterior *may* be increased in length, in consequence of the divarication of the fragments in front.

15. The amount of this increase will depend upon the amount of

displacement, upwards and backwards, of the carpal surface of the lower fragment.

16. To account for the shortening of the posterior surface of the bone, it is not necessary to suppose that there exists overlapping of the fragments. The shortening is to be ascribed to the alteration in the aspect of the carpal surface of the bone.

17. In Colles's fracture the pronatur quadratus acts principally upon the lower extremity of the superior fragment.

18. The theory of Voilhmier, which supposes that the superior is driven into the inferior fragment, appears to me to be liable to the following objections:—

a. The distance between the line of compact tissue and the posterior wall of the lower fragment is not the measure of the amount of displacement backwards of that fragment.

b. This interspace is considerable, even in those cases in which the fragments are found to be upon the same plane in front.

c. Were the theory correct, the amount of shortening of the posterior surface of the bone should be much greater than it ever is in cases of Colles's fracture.

d. There is no correspondence between the length of the line of compact tissue and the amount of shortening of the back of the radius.

e. The possibility of either fragment being driven into the other is difficult to be conceived, as long as the ulna remains entire, and the ligaments which connect it to the radius uninjured.

f. The appearances disclosed by the examination of recent specimens are opposed to the doctrine of Voilhmier.

g. Were it possible to separate the united fragments, and draw down the inferior so far as to extricate it from the apparent impaction, we should not succeed thereby in restoring in normal form the lower end of the radius.

19. The compact structure of the shaft of the radius appears to have penetrated the lower fragment, in consequence of its having become encased in osseous matter, deposited for the union of the fracture.

20. The extent of this deposit regulates the length of the line of compact tissue, which appears to have been impacted.

21. In the treatment of Colles's fracture the object most difficult to be accomplished is to restore to the carpal surface of the radius its natural direction *forwards*, and thus render the posterior surface of the bone longer than the anterior, as it is in the natural state.

22. The upper and lower fragments of the radius should be pressed in opposite directions, the former backwards, and the latter forwards; but the principal amount of pressure should be exerted upon the inferior fragments.

23. The use of a curved splint, which preserves the hand in a moderate state of adduction, supersedes the necessity of employing the ulnar splint of Dupuytren.

24. The object proposed to be attained by keeping the hand in this position is to restore to the carpal surface of the radius its normal direction inwards.

25. Fracture of the lower extremity of the radius, with displacement

of the lower fragment forwards, is generally the result of a fall upon the back of the hand.

26. This injury is liable to be mistaken for dislocation of the carpus forwards.

27. The principal diagnostic signs of the nature of the accident are the facility with which the deformity can be removed and crepitus produced, and the obliquity of the outline of the dorsal tumour, its external portion (or that constituted by the extremity of the superior fragment of the radius) being placed higher up than its internal portion, which is formed by the head of the ulna.

28. Fracture through the lower extremities of the radius and ulna is very liable to be mistaken for dislocation of the carpus backwards.

29. The chief diagnostic signs of the fracture are the following:—

a. The styloid processes of the radius and ulna maintain their normal relations to the carpus, and move with the hand.

b. The distance between the margin of the dorsal tumour and the ends of the fingers is greater than that between the upper edge of the carpus and the extremities of the fingers of the uninjured limb.

c. A very moderate degree of extension is sufficient to restore the fragments to their proper relative position; but when the extending power is removed, the original deformity is exceedingly liable to recur.

d. When the deformity has been reduced by extension and counter-extension, the carpus can be readily moved backwards and forwards, and during these motions a crepitus is distinctly felt. (P. 171.)

III. *Fractures of the humerus in the vicinity of the shoulder-joint.*— 1. The most valuable diagnostic signs of fracture detaching the greater tubercle of the humerus are an increase in the breadth of the shoulder, and a vertical sulcus, corresponding to the upper part of the bicipital groove.

2. When there is much displacement of the tubercle, in consequence of the rupture of the fibrinous and tendinous structures which invest it, ligamentous union is more likely to be the result than osseous.

3. Independent of fracture through the greater or lesser tuberosity, the upper extremity of the humerus is liable to be broken in three situations, viz. through the surgical neck, through the line of the epiphysis, and through the anatomical neck, or narrow line, which separates the head of the bone from the tubercles.

4. There are two varieties of the impacted fracture of the upper end of the humerus; one situated external to, and the other within, the capsular ligament. The former may pass either through the tubercles, or through the line which, in the young subject, marks the junction of the epiphysis with the shaft: the latter traverses the anatomical neck of the bone.

5. In the former, it is generally the inferior fragment which penetrates the superior, while, in the latter, the head of the bone is driven into the lower fragment.

6. In the former, crepitus is not elicited without the application of considerable force; in the latter, it can be produced with comparative facility.

7. The intracapsular impacted fracture is generally accompanied by a fracture of one or other, or of both tubercles, and is so far analogous to the extracapsular impacted fracture of the neck of the femur, with fracture of one or other, or of both trochanters.

8. Each variety is capable of uniting by bone.

9. In the intracapsular variety, the circumstance of the fracture being accompanied by impaction materially increases the probability of the occurrence of osseous consolidation.

10. When osseous union occurs in this variety of fracture, the process of reparation is accomplished by the lower fragment principally.

11. In the intracapsular fracture, without impaction, the head of the humerus may perish for want of nutrition.

12. In such cases, disorganization of the joint may ensue, as the result of the processes, by which the elimination of the dead bone is accomplished.

13. In the intracapsular fracture, the head of the bone may become reversed in the articulation, and its cartilaginous surface be brought into contact with the broken surface of the lower fragment.

14. When this happens, the cartilage unites very imperfectly with the cancellated tissue of the inferior fragment.

15. In the intracapsular impacted fracture the deformity is greater than in the extracapsular.

16. The diagnosis of the extracapsular impacted fracture is most difficult. The evidence of its existence is chiefly of a negative character.

17. The most important diagnostic signs of the intracapsular impacted fracture are shortening of the limb, approximation of the upper end of the shaft or tubercles to the acromion process, flattening of the shoulder, crepitus, and an impossibility of feeling the entire of the globular head of the bone.

18. Each variety of the impacted fracture unites with deformity.

19. In the intracapsular impacted fracture, the removal of the deformity would diminish the probability of the occurrence of osseous consolidation.

20. The chief diagnostic signs of the separation of the superior epiphysis of the humerus are an abrupt projection beneath the coracoid process, caused by the upper end of the lower fragment, and the immediate recurrence of the deformity when the means employed for its reduction cease to be in operation.

21. There is no fracture incidental to the upper end of the humerus in which it is more difficult to maintain the fragments in their proper relative position.

22. The supposition that, in this injury, the tubercles form a portion of the lower fragment, involves an anatomical error, the line of junction of the epiphysis with the shaft being below these processes. (P. 206.)

IV. *Fracture of the acromial extremity of the clavicle.*—1. When the clavicle is broken between the coraco-clavicular ligaments, there is seldom any displacement of either fragment, and always much less than in fracture of any other portion of the bone.

2. When displacement does occur, it is usually limited to a slight alteration in the direction of the bone, by which the natural convexity of this portion of the clavicle is increased.

3. In cases of fracture between the trapezoid ligament and the acromio-clavicular articulation, the displacement of the outer fragment is, in general, considerable, its inner extremity being drawn upwards.

4. This displacement is frequently carried to such an extent, that the fragments form a right angle with each other; and it is principally due to the action of the clavicular portion of the trapezius muscle.

5. The entire of the outer fragment is also generally drawn forwards and inwards, sometimes to such a degree as to bring the broken surface of the external into contact with the anterior margin of the internal fragment. The reticular structure of the former unites, in these cases, with the compact tissue of the latter.

6. The displacement of the outer fragment forwards and inwards is owing to the revolution of the scapula upon its axis, and to the action of the muscles passing from the chest to the arm.

7. The derangement, as regards the thickness of the bone, is very slight, so that there can scarcely ever be any overlapping of the fragments.

8. In consequence of the displacement, as regards the direction of the bone, the clavicle is shortened in this injury.

9. In cases of fracture external to the conoid ligament, osseous matter is freely formed upon the under surface of either.

10. These osseous growths, occupying the situation of the coraco-clavicular ligaments, frequently assume a determinate form, and constitute a prop or buttress, which rests upon the root of the coracoid process. It is usually convex posteriorly, concave in front, and slightly notched inferiorly; in some cases it reaches down to the notch of the scapula.

11. In some rare instances these osseous formations unite with the coracoid process, and anchylosis is thus established between the scapula and the clavicle.

12. In cases of fracture external to the trapezoid ligament, the amount of external deformity is seldom proportionate to the extent of the displacement of the outer fragment of the bone. (P. 222.) Vide the *Report on Surgery*, in the present Volume.

ART. 41.—*Differential Diagnosis between Congenital Dislocation of the Lower Maxilla, Accidental Dislocation of the same, and Chronic Rheumatism.* By Dr. R. W. SMITH, Dublin.

(Liber citatus, p. 292.)

1. In the congenital luxation, the mouth can be freely opened and closed; in chronic rheumatism these motions can be performed, but not without uneasiness to the patient, an uneasiness which sometimes amounts to severe pain; in luxation from accident, the mouth cannot be closed.

2. An involuntary flow of saliva accompanies the accidental luxation alone, although in some cases of chronic rheumatism there is an increased secretion of that fluid.

3. In congenital luxation, the teeth of the upper jaw project beyond those of the lower; the reverse is observed in accidental luxation, and in chronic rheumatism.

4. In congenital luxation there is no fulness in the cheek, such as the coronoid process produces in cases of accidental luxation, and the enlarged condyle in some instances of chronic rheumatic arthritis.

ART. 42.—*The Diagnostic Characters of Urethral Discharges simulating Gonorrhœa, and occurring accidentally in cases of Spermatorrhœa.* By H. J. M'DOUGALL.

(*Preface to his Translation of Lallemand's Treatise on Spermatorrhœa, p. 14.*)

The symptoms are often almost as severe as those of virulent clap, and the discharge is attended with great irritation in the neighbourhood of the prostate, and frequent desire of micturition. It came on in one case of a married man, after taking a single tumbler of whisky-and-water at night—this gentleman not having been in the habit of taking spirits for several years, on account of continued ill health. The discharge is thicker than that of ordinary clap, and sticks in patches on the linen. These may be scaled off, after which there is little mark left, and the discharge seldom penetrates through calico, so that on the opposite side of the shirt there is little or no appearance of stain. On wetting the linen the discharge feels slippery, and it is washed off with difficulty. I am inclined to believe that these discharges are not contagious; but sexual intercourse should be avoided, on account of the injury that may result to the patient himself. In most cases, indeed, connexion is impossible during the first stages, on account of the painful chordee to which excitement gives rise. I have generally found that such discharges were connected, more or less, with deficiency of generative power. In the case I have above alluded to, impotence was almost complete; and in another, occurring in the person of a married surgeon, the powers had greatly declined. Both these patients were in the prime of life, and both had in their youth led very irregular lives.

The irritation, I am inclined to believe, is situated in the posterior part of the urethra. Indeed the surgeon I have just alluded to believed himself affected by enlarged prostate—many of the symptoms of which generally accompany the discharge I have described, especially frequent desire to pass water, and a feeling as though the bladder were never completely emptied, or as if two or three drops of urine were retained in the posterior part of the urethra.

In the treatment of these cases I have found the application of the solid nitrate of silver most effectual. The condition of the mucous membrane is immediately modified by it, and within twelve hours the patient experiences a degree of comfort to which, very frequently, he had long been a stranger.

This peculiar form of urethral discharge has hitherto, for the most part, I believe, been confounded with contagious clap; indeed many members of our profession are in the habit of setting down all discharges from the urethra, indiscriminately, as the result of impure connexion, however positive the patient may be that such has not

taken place. In all the cases I have hitherto met with, however, the patients have admitted that they had been previously affected with contagious clap—frequently on more than one occasion. The discharges I have described are, I am inclined to believe, by no means uncommon, and are certainly deserving the careful attention of the profession.

SECT. II.—THE NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 43.—*Acute Myringitis, or Inflammation of the Membrana Tympani.* By W. R. WILDE, Esq., Surgeon to St. Mark's Hospital, Dublin.

(*The Dublin Quarterly Journal*, Nov. 1847, p. 357; condensed.)

The physical signs consist, in the severe cases, of heat, pain, and slight erysipelatous redness of the auricle. In very aggravated cases, heat, fulness, and œdema, as well as pain over the mastoid region. In ordinary cases, slight tumefaction of the lining of the external meatus, complete cessation of the cerumenous secretion, a bright pinkish colour, and a swelling and polish of the membrane lining the auditory canal, which is streaked with long tortuous vessels; accompanied by heat and itching of that part.

The membrani tympani first loses its polish, then its semitransparency; becomes in the early stages, and in very mild cases, of a dull yellow, but this is variable, and seldom seen. The most usual colour varies through all the shades of red, from a slight pinkish hue to that of a dark damask rose tint, and is caused by the different degrees of vascularity produced by the greater or less intensity of the inflammation. Soemmering has faithfully represented the arteries of the tympanal membrane, in the normal condition, as two long vessels proceeding from above downwards and backwards, along the course of the handle of the hammer, and branching on either side into the anterior and posterior vibrating, thin portions of the membrane. During inflammatory action, however, like as in the coats of the eye, new vessels seem to start into existence, and to branch and inosculate till the whole seems one mass of bright or livid red. Generally speaking, the upper portion round the attachment of the head of the hammer is the first to become vascular, the last to regain the natural hue, and the part in which the colour becomes the deepest. The vessels along the handle of the hammer are always well marked, though the line of attachment of that bone remains for a long time whitish, owing to the intimate connexion of the membrane to it at this part. Around the circumference of the membrane, within the ligamentous ring, particularly at its lower and anterior part, an areola of short vessels form a circle of almost a line in breadth, They all run towards the centre, and, when well marked, look like the zone seen in iritis, or, which is perhaps a better simile, the zone observed in the cornea in the commencement of cornitis, to which disease the appearances seen in myringitis bear a great resemblance. It is only in the early stages, or when the redness is disappearing, that this peculiar peripheral vascularity is

well marked. With this general redness may, in some cases, be seen well-defined patches of ecchymosis, generally on the anterior vibrating portion; and as the vascularity increases, even the exact position of the membrane cannot be recognised; all is one red mass. The membrane also becomes swollen, and its surface apparently villous; rarely vesicles, and still more rarely pustules and small abscesses, form on its surface. Ulcers occasionally form upon it. These usually occupy the anterior part of the lower vibrating portion; but I have occasionally seen them situated posteriorly. It is possible that they may have commenced as vesicles or pustules, but we require more extended and minute observations to determine this point. Exudation of muco-purulent secretion, with the detachment of the cuticle, both from the surface of the membrane and the parietes of the canal; perforation of the tympanal membrane, either by rupture, abscess, slough, or ulceration, but which it is not always easy to determine—also occur occasionally. The rupture usually takes place in the anterior portion, and close to the opening of the Eustachian tube; sometimes it may be seen as a round or oval hole, about the size of No. 8 shot, and appearing as if punched out of the membrane. In other instances, the rupture takes place at the inferior edge of the membrane; in which case the lower margin of the aperture is formed by the parietes of the canal and cavity of the tympanum.* In still rarer instances, the rupture takes place in the posterior division of the membrane, below, and somewhat behind, the point or handle of the malleus.

Besides the peculiar vascular condition of the membrane already referred to, lymph is very frequently effused between the laminæ, in the substance of its proper fibrous tunic; and there can be little doubt that, in the severe forms of the disease, this morbid product is poured out in large quantity upon the surface of the tympanum, the membrane of which must partake largely of the inflammatory action so visible in the external septum. That these lymphy exudations, both by thickening the tympanal membrane itself, and by acting in a similar manner upon the lining of the cavity of the tympanum and the parts contained within it, by bands of adhesion within its walls, thus drawing inward and arresting the vibrations of the membrana tympani, curtailing the motions of the ossicula, injuriously affecting the membranes of the fenestræ, and particularly by impairing the functions of those tympanic branches of the glosso-pharyngeal nerves which ramify on the mucous membrane,—are the principal causes of deafness, I have little doubt.

When rupture takes place, and accumulations of blood, mucus, or purulent matter pent up within the tympanum are evacuated, relief is generally experienced.

In cases where neither rupture nor ulceration has taken place, as the disease advances, the vascularity of the tympanic membrane decreases, first, in the centre of its vibrating portion, then around its circumference, and, finally, along the mallear attachment. The membrane assumes a muddy, yellowish, opaque colour; after this clears off, we find it opaque throughout, or in spots; sometimes these opacities can be plainly discovered upon the interior of the membrane, like the speckled opacities seen upon the membrane of the aqueous humour.

In other cases, the result of inflammation is seen in the uniform grayish-white opacity, similar to leucoma of the cornea; and in time, as the superficial polish is restored, the membrane presents a pearly aspect, very different frem the semitransparent character of the healthy condition.

A not uncommon effect of inflammation of the tympanum and its membrane, particularly when allowed to run its course unchecked, is a drawing inward of the membrana tympani. In such cases the handle of the hammer forms the most projecting point seen at the bottom of the auditory canal; and the anterior and posterior divisions of the membrane can be distinctly seen forming deeply curved folds upon either side of it. At times the membrane can be elevated to its natural position by inflating the drum through the Eustachian tube; but in such cases, as soon as the pressure from within is removed, it immediately resumes its former position. Considerable discussion has occurred among authors as to the possibility of collapse, or falling inward, of the tympanal membrane, occurring from shocks or loud noises, &c. This is not the place for investigating that question; but of the existence of the pathological condition which I have thus described, and of its being sometimes the consequence of inflammatory action, I have no manner of doubt. It is a peculiarity I demonstrate to the class at the hospital daily. Mr Toynbee's dissections confirm my observations on this point, and, in some instances, explain the cause, namely, adhesive bands existing between the back of the membrane and the inner wall of the tympanum. [*These dissections are referred to in our Report on Surgery*, Vol. V, p. 263.—H. A.]

ART. 44.—*Chronic Myringitis.* By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Feb. 1848, p. 92; condensed.)

This disease presents under two forms: the first a perfectly painless deafness; the other attended by paroxysms of violent pain, coming on at intervals, between which the patient is perfectly free from all uneasiness. The latter is much more common among females from fifteen to thirty, and is at times accompanied by irregularities of the uterine functions. The appearance of the membrana tympani is too peculiar to be mistaken. It presents a general thickening and opacity, particularly of its lower portion; besides which, there is almost invariably a number of spots, about the size of pin-heads, of greater density than the rest, and of a pearly lustre, studded over the surface of the membrane. In many cases it presents the appearance of crumpled parchment. During the quiescent periods, we only remark a few straggling vessels, carrying red blood, spreading over the surface of the membrane, and, for the most part, coursing from above downwards, parallel with the handle of the hammer. Upon any provocation, however, such as cold, or other exciting causes, the membrane will in a few hours, and often without any increase of pain, become of a uniform dark-red colour, precisely like *pannus* of the cornea—a disease of which it is the manifest analogue. The greater the amount of thickening and opacity, the less will be the quantity of vascularity and redness which the membrane is capable of assuming, as we perceive in cases of dense

opacity of the cornea: owing, no doubt, to the greater quantity of deposit obstructing the flow of red blood, by diminishing, and perhaps also obliterating, the calibre of the vessels.

Cases of this kind are often of many years' standing, and many have, I am convinced, been treated as instances of "nervous deafness." . . . The membrana tympani will be found thickened, opaque, and slightly vascular, and sometimes very much collapsed, or drawn inwards towards the tympanum, so that the handle of the hammer forms a manifest projection. . . . It is acknowledged that several attacks of *earache* were suffered several years previously, and that such attacks were often preceded or accompanied by symptoms of catarrh.

[After describing a very interesting illustrative case, Mr. Wilde remarks:]—

Our art at present does not offer much hope. The whole train of symptoms are evidently the result of slow chronic inflammation, affecting, in all probability, the lining of the cavity, as well as the membrane of the drum. The only means which can with safety be recommended at this period is the application of a solution of lunar caustic, applied with a camel's hair brush, every third or fourth day, upon the surface of the opaque membrane, while it is fully exposed to view; and should there be much vascularity present, the application of a few leeches, as far in as possible around the meatus, at least twice a week. In a few cases the *arnica* will assist to remove the tinnitus; but it is not so efficacious in this as in more recent forms of the affection.

ART. 45.—*Observations respecting the Origin and Growth of certain Concretions occurring in the Prostate Gland.* By C. HANDFIELD JONES, M.B., Cantab., Lecturer on Physiology at St. George's Hospital Medical School.

(*London Medical Gazette*, Aug. 20th, 1847.)

The prostate gland is usually described as corresponding in structure to that class of conglomerate glands of which the salivary may be regarded as the type. In the salivary glands, the epithelium which fills their terminal vesicles is bulky, and of very fragile texture, often appearing to consist merely of aggregations of granular matter round nuclei. It differs entirely from that which lines the buccal cavity, which is well known as a perfect specimen of the scaly kind. Now, in the prostate cavities this distinction is not nearly so strongly marked; the whitish fluid, which flows, when the gland is compressed, into the prostatic sinus of the urethra, consists, in great part, of epithelial prisms, exactly the same as those of the adjacent portion of the urethra; and in the terminal cavities of the gland, so far as I can determine, the epithelium is still rather allied to the columnar form, than to the spheroidal or truly glandular; sometimes it even approaches closely to the scaly variety, the columns being very short, and the cells imperfectly developed. Moreover, in the great majority of instances, it is distinctly seen to line the cavities, and not to fill or occupy them completely, as that of the salivary vesicles does.

Another point of difference appears in the mode in which the terminal cavities of the prostate are disposed—not closely grouped to-

gether in lobules, as is the case in the salivary glands, but each for the most part invested; and separated from the adjacent ones by a quantity of connecting tissue. This intermediate tissue is disposed in fasciculi, which are closely woven together, and include spaces which are occupied by the glandular structure. It consists, principally, of the white fibrous element, but also contains numerous bands resembling closely those of organic muscle. In the enlarged prostate of old age this tissue seems especially increased. Again, it may be observed that in the salivary glands the efferent ducts are narrow, and bear but a small proportionate size to the groups of secreting vesicles which cluster round them on every side. In the prostate the terminal cavities are *smaller* than the efferent passages, and there is, as before stated, no marked distinction between them. These considerations furnish some grounds for regarding the prostate as rather an assemblage of mucous follicles than really a distinct conglomerate gland. Its part in the generative function is probably not to prepare any essential element of the fecundating fluid, but merely an appropriate viscid material; involved in which the seminal animalcules may be more securely transported on their destined route. I now proceed to describe certain remarkable formations which occur, I believe, solely in this gland.

In the cavities of the prostate there are frequently to be observed a number of minute concretions, having much the appearance, as M. Cruveilhier remarks, of brownish grains of sand. These are easily visible to the unaided eye; but microscopic examination reveals some interesting circumstances relative to their origin and growth, as well as the fact, which would scarcely otherwise have been suspected, that they are almost of constant occurrence; not so often, perhaps, of the brownish-red tinge which makes them conspicuous amid the whitish glandular structure, but more nearly pale and colourless, yet having, in other respects, an exactly similar appearance.

In their earliest condition, these concretions appear in the form of a simple vesicle, having a single clearly-defined wall of homogeneous membrane, the cavity is either transparent, or occupied by a colourless, finely-mottled substance, and in the centre there is seen, sometimes, a nuclear corpuscle. The size of these varies. I have seen them as large as $\frac{1}{250}$ in. diameter, but the majority are not much above $\frac{1}{1000}$ in., and many are still smaller. Their form is usually oval or subcircular. In the next stage of their development the original dark envelope is still to be seen, while the contained amorphous matter is beginning to be arranged in concentric layers, as indicated by delicate curved lines, which run parallel to the envelope, and are most apparent near to it. As their growth proceeds they usually attain a larger size, the interior concentric layers become more strongly marked, so as to be scarcely distinguishable, if at all, from the original envelope; their form, also, is frequently altered—in some instances, probably, from mutual pressure, so as to be very exactly triangular or quadrilateral. The central cavity still remains, and generally corresponds pretty accurately to the exterior contour. It contains often a yellowish or reddish-coloured granular material, which is sometimes perfectly opaque. This is not always deposited only in the central cavity, but more or less between the concentric layers, which are sometimes separated by it into two or

more series. The size of the concretions, when they have attained to what may be considered their mature state, varies considerably; some are quite visible to the naked eye. The majority, however, probably average from $\frac{1}{150}$ to [illegible] in. diameter. Many varieties may be perceived among them. The concentric layers may be more or less numerous nearer to the periphery or to the central cavity. They are not unfrequently replaced by radiating striæ, which run for a varying extent outward, and are crossed by one or more concentric rings; the appearance of some of these is extremely beautiful. Sometimes a tolerably large vesicle is seen to contain two smaller ones in its interior, both of which present the concentric laminated arrangement. It is not easy to determine positively whether the stages of growth which have been described as taking place in these structures are affected by the continual apposition of fresh matter to the outer wall, or by the dilatation of the vesicle, and successive deposits taking place in its interior: both methods are probably employed in various cases. The larger concretions, I think, receive increments of matter on their exterior, while the smaller seem clearly to increase in the endogenous manner, since the vesicles often attain a large size before the laminated deposit appears, the first faint traces of which may occasionally be seen in process of formation from the granular contents of the vesicle.

When the vesicles have attained their full development, they appear to undergo a kind of degeneration, or more properly, perhaps, to tend to dissolution. They lose their definite contour, become more or less shapeless and irregular; the concentric layers also become less distinct, and the granular contents either totally decolorized, or so much darkened in tint as to appear almost black. Many of the larger ones are seen to undergo disintegration by the formation of fissures, which run from the periphery towards the centre, and gradually break up the concretions into smaller fragments. Concretions in all these different states, from their first commencement to their final decay, may be frequently observed in the same gland. The situation which these structures occupy may be easily ascertained, if a thin section taken from the interior of the gland be examined by transmitted light. They are then seen lying in the follicular cavities, either in groups containing numerous small concretions, or as single ones, which are usually of large size. Such a view also frequently exhibits multitudes of concretions, colourless or semitransparent, scattered throughout the granular tissue, which, to the naked eye, had presented no appearance that could have led to the supposition of their existence. Though I have described the course of development of the original simple vesicles until they attain what appears to be their mature or most perfect state, yet I am by no means satisfied that they are normally destined to pass into such a condition. I think it is very probable that many of them undergo dissolution early, yielding up their granular or amorphous contents to form part of the secretion of the gland; and I am confirmed in this idea by having observed the simple vesicles to be more numerous and constant in their occurrence than those which exhibit the concentric laminated arrangement.

The chemical composition of these concretions must doubtless vary in the different stages of their development. At first they can scarcely consist of anything else than animal matter; subsequently, however,

they acquire calcareous salts, and especially when they lose their definite form, and degenerate into an amorphous mass, their earthy constituents no doubt predominate. These are stated by Dr. Prout to be phosphate, with a little carbonate of lime. What is the nature of the colouring matter I am unable to state. Its presence is evidently not essential; it is unaffected by ether, liquor potassæ, or strong hyd. chl. acid.; its tinge is deepest in those concretions which appear to be of long standing, and to remain permanently in the cavities of the gland.

I have not examined a sufficient number of cases to enable me to offer an opinion as to the causes influencing the production of these formations; only it has appeared to me that they are found so constantly, and in such numbers, in glands which bear no mark of being diseased, that I am rather inclined to regard them, while in a moderately developed state, as normal structures, contributing, perhaps, some element to the natural secretion of the gland. When, however, they grow immoderately, and assume a permanent existence, they then must, doubtless, be regarded as diseased products.

One remark, in conclusion, is suggested by the history of these curious formations, viz. that they appear to occupy an intermediate position between organic growths and inorganic concretions. To the former class they belong, by having their origin in a vesicle or cell, and by their growth taking place chiefly in the endogenous manner, by successive interior accretions. To the second they approximate by the triangular or quadrilateral shape which they often assume, their tendency to become infiltrated with earthy matters, and to pass into the state of a dead amorphous mass.

Art. 46.—*The Surgical Relations of Associated Muscular Motion.* By J. P. Vincent, Esq.

(Excerpta from "Observations on some of the Parts of Surgical Practice.")

1. In the combination of the moving parts of the machine, the variations that may take place in the least part will vary the whole. The change in the movement of a finger has really and strictly an influence upon the whole body. (p. 3.)

2. To preserve unity of purpose amidst a complexity of means, there must be a centre of motion, about which all the different systems are to move. The centre of motion is the centre of gravity. In man the centre of gravity is a moveable point, limited in the variation of its position, between the pubis and sacrum. (p. 4.)

3. As almost all muscular actions are performed in reference to a centre, so, when this centre is lost to muscles as a bond of union of consentaneity, they, if they can find a new centre readily, go into a new combination of action, as conformably as can be with this new centre. This ability to adopt states of transition is of course the ability to be educated. (p. 5.)

4. All muscles are, for the most part, exercised in the *forward* movements of the body, and as very few people have much use of the muscles that act in a sideway motion, so when any one muscle is used in this forward motion, there are, by reason of the association of actions, many others called into action, to the injury, probably, of the

case. When a patient is placed on his side, owing to the disuse of the muscles calculated for this kind of movement, the whole system of muscular action is more likely to be in repose, and has less chance of being excited by the laws of association. (p. 10.)

5. The relaxation of muscles is to be effected by attending to their position when they are required to throw out their strongest exertions; and not, as usually is supposed, by approximating their attachments. In dislocation of the foot backwards, the gastrocnemius has its lever of action increased in power as the foot lies extended, by the heel projecting so much behind, which advantage, joined to that of its *habitual exertion when in this direction*, forms a very great opposition to the foot being brought to a flexed position; the surgeon will sensibly feel the cessation of its action the moment it is brought to a right angle with the axis of the tibia. This is owing to its being then in a state of least action in the usual exercise of its powers. (p. 11.)

6. The overpowering strength which a muscle is brought to exert, when its usual direction of action about a centre is forcibly changed, is another law of conditions of the utmost consequence to the surgeon. The dislocation of the patella on its edge is an example; the bone sets the extensors of the leg into action of the most violent kind. These muscles act most powerfully when the limb is to be straightened, and in the condition in question they act with a power which defies all the force that human aid can call to its service. Their force is also partly the effect of that irritation which all muscles get when they are thrown out of their ordinary line of action, particularly when they are disturbed in moving round their ordinary centre of motion. We have only to flex the leg a little, and all this powerful opposition to restoring the patella ceases upon using the slightest rotatory motion. (p 13.)

7. The associated action of muscles is exhibited in *cramp*. If it occur in one muscle, as in the exterior of a joint, and the flexor of the same joint be put into strong action, the cramp ceases immediately. If the extensor pollicis proprius of the foot be the muscle affected, it is only to put into action, strongly, the flexor pollicis longus, by pressing the toe against some substance, when all cramp at once ceases. These two muscles are associated by reciprocity of action; and as the one motion is strongly called forth, the other gives way to the minimum of action. (p. 5.)

ART. 47.—*Origin of the Venereal Disease.* By M. RICORD.

(*The Lancet*, Oct. 23, 1847, p. 443.)

A question which has often been debated, and which is by no means solved, is the inquiry about the origin of the disease. No light has hitherto been thrown on the subject; and it may safely be asserted that the immense labours of Astruc, Sanches, Gittner, and many others, have had no satisfactory results. When we view the venereal disease as it now reigns, when we take into account the circumstances which surrounded the ancients, we must come to the conclusion that the disease has at all times existed. We find in the Scriptures descriptions of complaints which might very well be referred to blenorrhagia. Truly syphilitic affections, however, are not mentioned in them; but then, what are we to think of lepra?

Hippocrates speaks of an ulceration of the genital organs; Galen mentions the contagious nature of blenorrhagia; and Celsus gives a description of the different affections of the parts of generation. It must be confessed that the latter speaks neither of their causes nor diagnosis, but he overlooks these matters also [illegible]e description of other diseases. The Greeks, the Arabs (Avicen[illegible] Aretæus, Albucasis), the physicians of Rome, have one and all given descriptions which cannot be mistaken. William de Salicet and Gordon give detailed accounts of ulceration of the genitals, and they attribute them to intercourse with women neglectful of cleanliness, and who abound in sanies (1467). Proceeding chronologically, we reach the famous epidemic of 1493-4. This was really a revolution of the disease, not only with reference to the study of the same, but with regard to the ravages it made at that period. The constitutional manifestations caused the local affection to be overlooked; all the mischief was attributed to the former, and they alone fixed the attention. At that time, then, the disease was looked upon as an inseparable whole. But these hasty views soon gave place to a calmer consideration of the subject, and the links which had been made to connect the heterogeneous parts of these affections were broken asunder.

Alexander Benedict gave his contemporaries a glimpse into the origin of the syphilitic poison. Fernel studied its source, and the different accidents which may follow it. At last, John Hunter came, and laid the true foundation of the science of venereal affections. From Hunter's time until 1811-12-13 no advance was made. At this time arose a violent opposition to the then existing doctrines, and it threatened to overthrow all that had been taught since 1493. According to the supporters of the new theory, specificity was an illusion; irritation and inflammation was to account for everything. These battles, however, soon vanished; the spirit of observation triumphed, and venereal diseases resumed their proper bearing. All varieties were placed under the same category, and from that time improvements went on steadily.

In order to appreciate the value of history, it must be remembered that the ancients, up to the famous epidemic, were acquainted with local symptoms The only mistake they were making was, that among these local symptoms they did not distinguish the specific from the non-specific. But it has been asked, how did it happen that these ancients, being familiar with local appearances, did not hit upon the connexion existing between these and constitutional symptoms, or, in other words, the connexion between cause and effect? I answer to this, that they likewise overlooked the relation of simple wounds of the genital organs with the appearances arising from them in neighbouring parts, viz. the relation between epididimytis, blenorrhagia, or bubo, and a simple wound of the penis. Besides, it is very possible that the secondary symptoms, which we now regularly observe within a stated period, might have been much more tardy with them, so as to make the connexion pass unnoticed. Is not this very connexion forgotten in our own days, by men who daily come into contact with this disease? I may ask, moreover, whether it is proved that syphilis alone was concerned in the epidemic of 1493? Could not glanders, farcy, typhus, &c. &c., have had something to do with it? Did not the

famine and misery caused by the wars of Charles V, the expulsion of the monks from Spain—did not all the disasters of those times contribute to the outbreak of that fearful epidemic?

When people came to be at a loss as to the origin of syphilis, they thought of ascribing it to unnatural connexion, to the influence of the stars, the heavenly wrath, the air, the water, even to anthropophagy, &c. &c.; but is it not more natural to believe that the epidemic spread under the agency of a cause which had rendered the human body more accessible to the general infection? Do we not every day see patients who, having become locally affected, surrounded by certain circumstances, affected in the same way as before, exhibit secondary accidents?

After this epidemic, the venereal disease became again what it had been before, now that the epidemical tendency was disappearing.

It is in the fifteenth century, too, that the American fable was invented. Sailors were said to have imported the disease from St. Domingo into Italy. Here we must notice that the faculty of inoculation must have been preserved during so long a voyage, and I do not think this at all probable. Besides, how can we imagine that a few men could, at the same time, have infected so many nations? Other circumstances were evidently necessary; and I do not hesitate to consider this as a mere story. But even if we were to admit that we are indebted to the Americans for the venereal disease, we should thereby only remove the limits of our inquiry still further. Could not the Americans ask us, or ask themselves, where *they* had it from. It is quite certain that the disease is not more innate in that country than in any other; and as for the elevated temperature which has been looked upon as one of the causes of the development of syphilis in America, it may be objected that the temperature of some parts of the eastern hemisphere is just as high. We all know that the Arabs successfully used mercury in skin diseases, and that, nowadays, we cure with this metal only those cutaneous affections which have a syphilitic origin. Could we not hence infer that these diseases had a syphilitic nature?

This sad complaint has arisen wheresoever sexual intercourse took place; and Voltaire was quite right when he said, "It is with syphilis as with the fine arts, it grows, comes to perfection, and no one knows whence it came."—*Lectures delivered at the Hôpital du Midi.*

[South has some interesting quotations from the 'Rosa Anglicana' of John of "Gatesden," better known as John of Gaddesden (1320), and John of Arden (1377). He remarks that he is not by any means sure that even syphilis, with its primary sores, was not known to the latter. *Notes to Chelius*, vol. i, p. 163.—H. A.]

ART. 48.—*Syphilitic Myringitis, or Inflammation of the Membrana Tympani.* By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Feb. 1848, p. 106.)

[Although syphilitic affections of the organs of hearing have been noticed by authors, Mr. Wilde believes that no authority hitherto has mentioned this disease.]

The disease which I am about to describe is an inflammation of a specific character, occurring in the membranes of the tympanal cavity, but chiefly exhibited in the external membrane of the drum. All the cases I have seen of this affection occurred in young men, and generally those with fair complexions and blue eyes, who had had primary sores upon the genitals, from six to twelve months previously, which sores were rather of a deceptive character, so that mercury was seldom given in the first instance; at least, in a legitimate form. These sores were usually tedious in healing, and followed by papular eruptions and sore throats, for which mercury was, in most of the cases, taken irregularly. Buboes were not a common attendant, nor had iritis ensued in any of the instances of well-marked venereal myringitis which fell under my notice; but copper-coloured blotches, fissures, and ulcers of the tongue, with loss of strength and slight nocturnal pains, generally speaking, existed previous to the aural affection, which should, I think, be ranked as a tertiary symptom. In four cases out of five of this disease which I witnessed last year, the disease appeared suddenly, as an eruption was fading off; in the fifth it came on at a later period, and was accompanied by loss of hair; in all it appeared in the upper or middle ranks of life. In some cases, there is at first a sensation of fulness in the head, and often vertigo upon stooping, or rising up suddenly, and the patients have usually a feeling of fulness within the ear; but in no instance have I seen it accompanied by acute pain, in which circumstances it resembles the subacute form of inflammation, already described at page 83, but upon inspection the amount of redness and vascularity will be found very much greater than the latter; and in this consists one of the chief characteristics of this disease, that while it is unaccompanied by local pain, as in the subacute inflammation, the membrana tympani will be found to present an amount of redness equal to, and sometimes exceeding, that seen in acute myringitis. The redness has generally, however, a brownish hue in the syphilitic form, which is not observable in that just alluded to. There is not, at first, much loss of polish, but in a short time the membrane assumes a fuzzy appearance. The auricle and meatus I have not seen affected more than in the subacute form; both ears are usually affected at the same time. The amount of deafness is usually very great, and is the symptom that first attracts the patient's attention, and it seldom varies. Tinnitus is not usually present, but in two cases which I possess the notes of, the deafness was ushered in by a very loud noise, which passed away after a few days. This inflammation does not end in mucous or muco-purulent discharge from the surface of the membrane, or the sides of the auditory canal; nor have I seen lymph effused upon the external surface of the membrane, as in the more violent and painful forms of otitis; but from the *brownish* red colour of the membrane in the early stage, from a yellow-speckled opacity, which is generally observable in it on the subsidence of the redness, and from the intense degree of thickening and opacity which were present in some cases, which were evidently the result of syphilitic myringitis, I am inclined to think that lymph is largely effused between the laminæ, or upon the inner surface of the membrana tympani. Two of the worst cases of deafness (not congenital) I ever saw, appeared to

have been the result of syphilitic inflammation, and in both there was great thickening, opacity, and insensibility of the membrane. I am also inclined to think that syphilis has played a more extensive part in the production of deafness than the profession is at all aware of.

ART. 49.—*The Nature and Cause of Painful Crepitation of the Tendons.* By M. VELPEAU.

The man whom you have just seen is a dyer by trade, æt. 49, and his case deserves notice. A week since he endeavoured to raise a load, having his left hand applied to his hip. He felt a violent pain in this arm, and now we may perceive a slight swelling at the lower and external part of the fore-arm, unaccompanied by any change of colour or fluctuation. Of a regular and elongated shape, it is only painful during motion, while on applying the hand over it we may perceive a fine, characteristic crepitation; and it is an example of the *painful crepitation of the tendons* which was vaguely indicated by Boyer and Desault, described by me first in 1825, and has since formed the subject of the special writings of several authors. I first met with it in a case in the hospital of Tours, where it was suspected to be a fracture of the radius. The affection is especially observed among washerwomen, mowers, blacksmiths, locksmiths, and joiners; and when it is seated in the foot, among soldiers, huntsmen, &c. Excessive friction is the condition necessary for its production. In the fore-arm and wrist, where it is especially met with, its recognition is very easy, the crepitation it gives rise to being quite pathognomonic, being neither like that felt in fractures, that of cartilage or emphysema, but which has been compared to the crepitation of starch, or of hoar-frost, such as is produced by walking in the snow. Its seat is evidently the sheath of the tendons, and it is probably due to a slight inflammation, first causing too great a dryness of the mucous membrane, and afterwards giving rise to effusion. It is generally in nowise serious, disappearing in a few days by rest alone, but it must not be absolutely neglected, for I have seen it in some cases give rise to a fungous transformation of the sheaths; and, indeed, there is no reason why all the changes which occur in diseases of the joints should not take place here. If there is much pain we apply leeches and poultices, and the resolvent lotions and compression, but rest is indispensable.

Gazette des Hôpitaux, and *Medico-Chir. Review*, Oct. 1847.

ART. 50.—*The Cause of Eschars over the Sacrum.* By M. BLANDIN.—From the earliest period of his medical career, M. Blandin has always entertained most serious fears for patients in whom sloughing over the sacrum occurs; and, in his 'Anatomie Chirurgicale,' published in 1826, drew the attention of the profession to the almost sudden manner in which they often prove fatal. He believes he has discovered the explanation of this in the following circumstances. The point which suffers most from pressure in dorsal decubitus corresponds to where the sacrum is joined to the coccyx—exactly there, where the vertebral canal is only formed by the posterior sacro-coccygean ligament. Sphacelus in this way may easily reach the termination of the arach-

noid membrane, and air, pus, or sanies, gain admission into its cavity, producing a violent inflammation, which at first attacks the nerves of the cauda equina. Necrosis, too, may open a way into the vertebral canal with the same results; and in both cases the phlegmasia which results induces the phenomena of paralysis of the rectum, the bladder, and the lower extremities. When M. Blandin made his earliest observations, he was in the medical wards, and the accident is of no unfrequent occurrence in typhoid fevers. In the patient who gave rise to these remarks (a case of amputation of the thigh, otherwise proceeding favorably) there were retention of urine and paraplegia.

Medico-Chir. Review, Oct. 1847, from the *Gazette des Hôpitaux*, No. 71.

ART. 51.—*Case of Aneurism of the Arteria Innominata spontaneously cured, with Obliteration of the Left Common Carotid Artery.* By JAMES A. WISHART, M.A., Assistant-Surgeon, 15th Regiment.

(*Monthly Journ. of Med. Science*, Jan. 1848.)

William Martin, æt. 40, a labourer, married, of fair complexion, on the 8th of April, 1844, applied to Mr. Biddle, surgeon, at Edmonton. He complained of having caught a severe cold while at work, by which he had lost his voice. When Mr. Biddle heard him speak, it at once struck him that his tone of voice was occasioned by pressure on some part of the windpipe. On placing his fingers over the clavicles, a most distinct murmur was perceived, extending also up the neck. Over the superior part of the sternum, a strong impulse, accompanied with a bruit, was felt, synchronous with the stroke of the heart. The pulse in the right wrist was barely perceptible. These symptoms indicated the existence of an aneurism. Along with it the man had acute bronchitis, for which he was more immediately treated. His loss of voice, cough, and dyspnœa still continuing, he was admitted into the Middlesex Hospital, on the 27th of June, and discharged at the beginning of August. When I first saw him, on the 17th of this month, his symptoms were great dyspnœa, suffocating cough, inability to raise his voice above a whisper, moist râles over both sides of the chest, a strong impulse felt over the top of the sternum, and the pulse of the right wrist not perceptible.

The treatment was directed towards the disease of the lungs, and he was kept on very low diet. He continued much in the above state for a month, after which he gradually improved. He was strictly confined to the house, and took small doses of acetate of lead daily for several weeks. I visited him occasionally till the end of the year. There was then only a very slight impulse to be felt over the sternum. He had had for some time back repeated attacks of hæmoptysis, connected with the state of the lungs, which were then in an advanced stage of phthisis. He lingered on in much the same condition till the middle of February, 1845, when he became worse, and died on the 21st. A month before his death, no pulse could be felt in either of the carotids; for how long previous to that time it was absent I could not say. *On opening the body*, thirty-six hours after death, both lungs were found full of tuberculous cavities. The aneurism was carefully dissected out and removed. It involved the whole of the arteria innominata. On laying open the

aorta, the aneurism was found spontaneously cured, the innominata being entirely obliterated. The aneurism was considerably larger than a duck's egg. The tunics of the vessel were dilated in all directions into an oval pouch, which was completely and accurately filled by compact fibrine, deposited layer after layer, in such a manner as to fill the interior to the level of the aorta. The orifice of the innominata was dilated at this part to the diameter of a crown-piece, and the arch of the aorta was also somewhat expanded, in the coats of which there was an extensive deposit of atheromatous matter. The fibrine occupied a small extent of the interior of the aorta, so as completely to cover up the orifice of the carotid artery. This vessel, with the right carotid and subclavian, were entirely blocked up, and the circulation to the brain could only have existed in any considerable stream through the left vertebral artery, both it and the subclavian being somewhat enlarged in calibre. The circulation to the right superior extremity must have been carried on principally by anastomosis between the branches of the thyroid axis and vertebral arteries of the left with those of the right side. The right common carotid artery was slightly contracted, and filled with fibrine for about four inches above the aneurism. The right subclavian, and the branches of the thyroid axis, vertebral artery, &c., were pervious, and of their usual calibre. The aneurismal tumour adhered firmly to the front and right side of the trachea, on which it pressed, and slightly diminished its size; the mucous membrane of this part of the tube was of a reddish-brown colour, and a few points about the size of pins' heads were raised, as if at one time the aneurism had showed a disposition to burst into the trachea. The pneumogastric never adhered closely to the coats of the sac in front, and was considerably stretched.

The preparation is in the museum of the medical department at Chatham.

It will be observed that this man was kept on very low diet for a period of nearly six months, during which time he never left his room, and was principally confined to bed. It is probable that these circumstances, constituting pretty nearly the treatment of Valsalva, had great effect in producing the obliteration.—Vide *Report on Surgery* in the present Volume.

ART. 52.—*Case of Enormous Enlargement of the Left Mamma, by* W. E. IMAGE, F.R.C.S.; *with an Anatomical and Pathological Description of the Tumour, by* DR. T. G. HAKE and W. E. IMAGE.

(*Medico-Chir. Transactions*, 1847; condensed.)

Sarah Harvey, æt. 21. *Previous history*—About two years since, for the first time, she observed a red mark, about the size of a shilling, just above the nipple, and that the breast was enlarged; it was painless, even under pressure. She had not observed the enlargement of the breast until the red patch attracted her notice; the catamenia were natural. She continued for two months after this time free from any pain. As soon as it became painful, leeches and cold lotion were employed. The breast continued gradually to enlarge, the pain re-

maining the same; which, however, was not severe. Iodine was also employed fully, but ineffectually.

She remembered having struck her breast some time since with a pump handle, but did not suffer from the blow at the time; and she did not connect the accident in any way with her present disease. In fact, she was unable to remember whether the breast had begun at that time to enlarge.

Actual state, April 15th, 1845.—Breast pendulous: there is a blue, nævus-like spot just above the nipple, about the size of a half-crown piece, and several smaller ones of the same description in its vicinity. A general bluish or slate-colour characterises the entire surface of the breast. The skin itself, except in the places above mentioned, is normal, and its leaden hue disappears during pressure. The diseased mass measures around its base *fifteen inches;* vertically across, *nine inches;* horizontally across, *eleven inches.* By gradual pressure it admits of being reduced to at least one half its bulk. The veins appear enlarged. There is no pulsation, no murmur. When the tumour is reduced by pressure, the patient complains of fulness and heaviness in her head; and on the pressure being withdrawn, pallor and faintness supervene: these manipulations are productive of scarcely any pain. The patient has the fresh and healthy appearance of a country girl; the catamenia are regular and natural, and no difference is experienced in the breast at the menstrual epoch: with the exception of occasional faintness of an alarming kind, and deep mental depression, the constitution is healthy.

The treatment employed was pressure by an air-cushion, within a metallic hemisphere, so as to bear equally upon every part of the breast. The plan was continued three months, but no advantage resulted. The pressure afforded a feeling of support to the part; on its withdrawal the mamma quickly became distended again, and great faintness invariably followed the return of blood to the tumour. Meantime, in spite of the diminution of bulk by pressure, the disease itself actually advanced, and in September, five months after admission, presented the following appearances. The patches of discoloration, previously described, had enlarged and become blended, new detached spots had appeared, and the nævus-like discoloration had attained to at least six or seven times its former size, as represented in the plate. This morbid superficies presented an irregular form, consisting of conjoined patches and isolated spots, having the character of nævus. The parts originally red had become purple, and those newly developed were red. The nipple had become almost obliterated, and the areola was obscured by the invasion of the morbid process. The spot primarily affected had become the seat of venous dilatation, so conspicuous as to form a prominent feature, and its outer tegument was so attenuated as to excite fear of its speedy rupture.

[After consultation with several surgeons, the following operation was agreed upon for its removal.]

To place the patient in a recumbent position, to make a vertical incision on either side of the enlarged mass, and, as far as the healthy skin would permit, to dissect back two flaps, securing the bleeding vessels as the operation proceeded; to pass two very long and strong

needles, firmly fixed in handles, through the base, so as to meet each other at right angles in the centre of the base of the tumour; and having armed them with double ligatures, to return them. The needles being detached, the ends of the ligatures, eight in number, were to be firmly tied, and the tumour was thus to be strangulated.

Sept. 25th.—The tumour now projected seven inches from the chest, and measured twenty-three inches around its base, thirteen inches vertically across, and fifteen inches horizontally across. It was evident that it was daily increasing; and the menstrual period having just passed away, I determined to operate speedily. There was at this time a very distinct thrill communicated from the heart.

The operation lasted twenty minutes; during the latter part of which she was faint, having lost about 14 oz. of blood, and it was evident the shock was severe during the time the ligatures were tightened. She vomited soon after she had reached her bed, and the pulse was scarcely perceptible; after a short time, however, she rallied a little. Stimulants, mixed with gruel, as well as opiates in a liquid form, were administered from time to time, but were not retained as the vomiting returned. There was now considerable oozing of venous blood, particularly from the inferior portion of the wound, through which one of the ligatures had passed. It was arrested by gallic acid and pressure. Opium and beef-tea were administered by the rectum.

Sept. 26th.—Passed a sleepless night. The vomiting still continued, as well as some degree of venous oozing. The pulse was rapid and small, with other symptoms of collapse, the result of shock and loss of blood. The total loss of blood amounted to about 30 or 36 oz. She sank at half past 10 a.m., twenty-two hours after the operation.

Description of the tumour.—A horizontal section of the mamma through the nipple down to the base having been made, an appearance presented itself which was calculated to mask rather than reveal the nature of the disease. It is to be recollected that the ligatures used in the operation, when drawn tight, had the effect of compressing the blood within the vessels of the mamma, and of causing it to stagnate there. The tumour thus strangulated had been cut off from the circulation for a period of twenty-two hours, and had remained for a like period after death before it was dissected. The appearances, therefore, on a section being made, were those of strongly-marked congestion, caused by the operation. In the midst, however, of this artificial condition of the tumour, there existed traces of structure both healthy and morbid.

The skin was unaltered in structure, except in the places already described, where the disease was visible externally.

The adipose tissue and fibrous laminæ, situated between the skin and glandular substance, were compressed together, on the anterior aspect of the breast, into a dense tough membrane, in which there was an almost total absence of the fatty matter. At and around its base, however, the fibrous tissue was natural, except where perforated by dilated veins; and was intermixed with adipose tissue in the usual manner underneath the skin which surrounded the base of the organ.

The lactiferous ducts were observed passing from the glandular

structure through the parts in front towards the nipple, but were lost in the condensed tissue before reaching it.

Vestiges of gland, varying in size from that of a millet-seed to an almond, were scattered over the exposed surface.

Besides the venous apertures already alluded to, there existed in the fibrous tissue at the base of the organ, where the dilated veins penetrated, certain cells of considerable size, which were the result of the operation, as will be shown presently. Within these false cells blood was found, in a semifluid state, and resembling currant jelly; and connected to their walls were seen the torn remains of lactiferous ducts and glandular substance.

The arteries and nerves of the mamma were unaltered.

The absorbents were not examined, but there was no evidence of their enlargement. The capillary vessels could not be injected.

The internal mammary vein, towards its junction with the subclavian, presented an irregular and sacculated appearance. Immediately in advance of each sacculated portion, in the direction of the heart, the vein was narrowed.

The interior of the sacculated portion of the vein was found to present a valve-like formation; the narrowed parts were thickened, and the sacculated parts were formed of one hollow within another.

The superficial veins were dilated uniformly into large sinuses.

The mammary veins, internal and external, were traceable backwards into a cellulated structure, to be described presently.

All the preceding facts were visible to the eye without assistance; what follows was discovered by the aid of the microscope.

In whatever part of the mammary organ a section was made, and examined under water through the microscope, with a low power, the apparently uniform and glistening surface was resolved into cells. These cells were of various sizes; and within the greater, lesser ones were visible. Into these cells all the veins of the organ were traceable; indeed no vein was found to have any other origin, so that the cellulated structure of the tumour was essentially venous, consisting, in fact, of the veins situated between the capillaries and vein-trunks in a state of distension. The rupture of these cells, from pressure of blood under the ligatures during the operation, produced those large false cells already described as containing blood, pendulous fragments of lactiferous ducts, and their attached glandular substance.

The dilatation of the more minute venous structure of the organ into cells was a medium through which every tissue may be said to have become preternaturally, though uniformly, separated and distended. The effect of this was very evident in the fibrous as well as the glandular structures, which are intimately associated in the breast. By the increase of bulk to which this cell-formation gave rise in the organ, the lobes of the gland were separated further apart, and these, in their turn, were subdivided into isolated lobules.

The distending force had likewise produced its characteristic effect on the fibrous structure of the organ, the tissue in question being known to involve the gland and its parts. In health the fibres of this tissue are parallel and closely united; but when examined in the present instance, they were found to have given way to the dilated veins.

Their texture was completely altered, being converted in some places into a kind of network, through which the vein-cells passed. The process of formation of this cellulo-fibrous tissue may be thus described. In the first instance, the fibres are so slightly separated as to be only no longer parallel; they are then perforated by venous cells at intervals; and finally are separated so completely as to appear cellular.

Such were the effects, doubtless, of the formation of venous cells, itself caused by the force of the blood acting gradually and during a considerable period of time upon the venous system, the free passage through which was choked up near the junction of the left internal mammary vein with the subclavian. *The slight disproportion between the arterial and venous circulation, resulting from the narrowed condition of the internal mammary vein, was the evident cause of the fatal disease which ensued.* There was more blood supplied by the arterial, than could be carried off by the venous system of the mamma; hence its accumulation, and the adaptation of structure to this new condition of the circulation.

The disease above described, caused probably by the effects of a blow on the trunk-vein of the left mamma, is unique, and may not occur again for a considerable time.

SECT. III.—TREATMENT OF SURGICAL DISEASES.

ART. 53.—*The Treatment of Acute Myringitis.* By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Nov. 1847, p. 403; condensed.)

Counter-irritation, by means of small blisters applied upon the bald space behind the auricle and below the lobe, is advantageous in the more advanced stages of the disease, and after local depletion has been fully employed. Generally speaking, blisters are too much relied upon, or applied too early in the disease; but as it advances, they will be found highly useful, and the surfaces which they expose may, with advantage, be dressed with mercurial ointment.

Having resorted to all these means, we should, if the symptoms—not only of pain and deafness, but of the redness and vascularity of the tympanal membrane,—remain unrelieved, at once have recourse to the use of mercury. Indeed, I am now so fully convinced not only of the utility but of the urgent necessity of employing mercury in these aural inflammations, that I do not hesitate to recommend its use in the early stages of all such affections. Not only should the gums be touched, but the patient should be kept under its influence for some days, in order to ensure an ultimate beneficial result.

The temperature, in cases of acute myringitis, should be strictly attended to; the patient should, if possible, be confined to a warm, well-ventilated apartment, or, if obliged to go abroad, the cold air should be carefully excluded from the ear; but in the severe form of the disease, it is absolutely necessary to confine the patient to bed.

Depletion is strictly enjoined; but I have seldom found it necessary

to resort to general bleeding. Local depletion is imperatively required, either by cupping or by leeches; the former is not easily managed so near the part affected as to be of much service. In cases, however, of very severe internal otitis, it may be had recourse to, and a dexterous cupper will abstract several ounces of blood from the soft parts immediately behind and beneath the mastoid process; and if the head be much engaged, blood may be abstracted by the same means from the nape of the neck. Leeches are, however, the most effectual means of abstracting blood and retarding pain in all such cases. They should not, however, be applied in the usual manner behind the mastoid process; to be of service, they must be applied with a leech-glass, immediately around and within the external meatus, in the fossa behind the tragus, and, if necessary, in front of that prominence, in the hollow formed by depressing the jaw. From four to six leeches may be readily applied around the meatus, and in this situation they will produce more permanent and immediate relief than three times the number affixed over the mastoid region. The application in front of the tragus is also very much more effectual than upon the mastoid region. When, however, the latter locality becomes itself the seat of inflammatory action, they should also be applied freely all over it. Where we have already recently applied leeches in the two first-mentioned localities, and that the parts have thereby become swollen and irritated, the next most advantageous position is beneath the lobe of the auricle, behind the ramus of the jaw. I do not know any painful affection in which leeches applied in the manner directed produce the same amount of immediate relief, as the disease under consideration. They should be had recourse to again and again, even upon the same day, to relieve paroxysms of pain, as well as to lessen the degree of redness and vascularity observable.

The application of heat and moisture is particularly grateful in such cases; steaming the ear, by holding it over the vapour of some very hot water placed in the bottom of a long, narrow vessel, medicated with hyoscyamus, opium, belladonna, or with the ordinary decoction of marsh-mallows, camomile, or poppy-heads, if faith be placed in such, gives great comfort. The Russians employ a peculiar apparatus for relieving pain in the ear, consisting of a funnel-shaped roll of linen, the small end of which is applied to the meatus, while the large end, in which various balsamic substances are placed and set fire to, is allowed to burn down slowly like a moxa. A warm linseed-meal poultice, renewed every two or three hours, and particularly applied at bedtime, gives great relief. Stupes and fomentations are not, I find, as efficacious in aural as in ophthalmic inflammations.

The bowels should in this, as in all other febrile diseases, be opened; but the condition of the digestive organs does not appear to influence the inflammatory affections of the ear as much as they do those of the eye. The state of the skin, however, which is generally hot and dry, requires our more especial attention; and sudorifics are, in the early stage of the disease, decidedly indicated. Having leeched, fomented, and, if necessary, purged, James's powder, combined with small doses of blue pill and henbane, will be found very efficacious. Abstinence from animal food, and the use of the pediluvium, together with all

such means as are calculated to allay inflammation and febrile excitement, should be had recourse to.

In the subsequent management of the disease, the iodide and bromide of potassium, or very minute doses of the bichloride of mercury, in some of the preparations of bark, will certainly hasten the cure, as well as promote absorption of the deposits and adhesions. The treatment of the tinnitus which remains shall be considered under the head of the chronic form of the disease.

Under no circumstances should we pour any stimulating or sedative liquors into the ear. The state of the part should be examined with a speculum daily, or oftener if necessary; and then, should we discover an ulcer, it may be touched with a solution of nitrate of silver, applied upon a fine camel's hair-pencil. If otorrhœa has occurred, either from mucous discharge or from the external surface of the tympanal membrane and the auditory canal, or owing to pus or mucus escaping from the middle ear through an aperture in the membrana tympani, or from an abscess occurring in the walls of the external auditory canal, we should remove the discharge by very gently syringing the part with simple warm water, or the most bland unirritating fluids; but during the high inflammatory process no astringent injections whatever should be employed.

Should the mastoid process, or the parts covering it, become engaged, and that the methods already recommended fail to give relief, or that even an indistinct sense of fluctuation can be discovered, we should not long hesitate to make a free incision in the periosteum there, at least an inch in length. In performing this operation, the head should be firmly secured, and supported against some unyielding substance, as the back of a high chair, or the breast of an assistant. A stout scalpel is the best instrument to employ. It should be grasped so that the forefinger and thumb may come down upon the blade, so as to leave about an inch of it uncovered. It should be inserted steadily till the point reaches the bone, which it should be made to traverse, for the full length of the incision. By this means we secure complete division of the periosteum. With regard to the line of the incision, circumstances may require its being made in other directions; but I find that it is most generally required parallel with, and about an inch from, the attachment of the auricle. The knife should be drawn upwards, and from the swollen state of the parts, the depth which we are sometimes obliged to introduce the instrument is often nearly an inch. The hemorrhage, (unless we wish to extract blood,) may be arrested by placing a dossil of lint within the incision. The cut surfaces generally present the brown-like appearance seen in phlegmonoid erysipelas. Although pus may not have been reached by the incision, still immediate relief is almost invariably experienced. The subsequent management of this particular part of such a case, must depend upon the circumstances of exfoliation, &c. The treatment of the chronic form of the disease shall be considered in the subsequent part of this communication.

Art. 54.—*The Treatment of Pes Equinus. Successful Operation by the late* Professor Dieffenbach.

(*In a Letter to the Editor of the Medical Times*, Dec. 4, 1847; from Dr. Bushnan.)

[After remarking that neither simple orthopedic treatment is of itself capable of relieving deformities, nor that these are to be cured by a species of sleight of hand, and that the professor combined mechanical manipulation with the use of instruments and the section of muscles and tendons, in one happy whole, assigning to each its proper place in the treatment, Dr. Bushnan states that he has witnessed the most effectual cures of club-foot of every description—contractions of the knee, hip- and elbow-joints, at obtuse or acute angles; in fact, of every degree of contraction, from that of a toe which merely impeded the proper adjustment of a boot, to that of the principal limbs, interfering with their motion, and producing unsightly deformities;—that it was one of Dieffenbach's greatest qualities to individualize quickly, and even during an operation; that it is not this or that tendon to be divided in any given contraction, and according to a certain theory, but that it is now this and now that—now more and now less, and always as little as possible; that Dieffenbach was never tempted, like some surgeons, by a love of display; never forcing the limbs immediately into their position, so as to astonish a class by a kind of miraculous conjuring, but, on the contrary, he allowed, in many cases, days to elapse before he commenced the orthopedic treatment, further than that of a slight enveloping bandage; the reason being that the matter deposited between the cut extremities of tendons possesses great elastic power, and it is only when the divided tendons are so reunited that the parts are in a condition to be subjected to the necessary extension. The following cases are described:]

Case 1. Fedor W., son of a baker, at Furstenwalde, was born with pes equinus of the fourth degree. In his early years he had crept on all-fours, and all endeavours to make him walk were frustrated by the position of his feet, which were in straight lines with his legs. As he advanced in life he learned to walk upon crutches. At nine years old he was brought to Dieffenbach. At that time the deformity was threatening to advance into the fifth degree; the instep was yielding, and becoming altogether everted; it would soon have formed a sole for the foot. The distal extremities of the metatarsal bones were turned backwards, and rested on the ground; the toes were turned upwards, and the sole was concave, corresponding with the convexity of the dorsum. The heel was retracted, and the muscles of the leg shrunk and withered. The thigh was very thin, and the pectinei muscles rigid from excessive extension. He walked as on stilts, leaning his whole weight on his crutches, and bending forwards.

The operation consisted of the subcutaneous division of the tendo Achilles. The limbs were then lightly enveloped in bandages, and after a few days laid in Stromeyer's machine, and gradual extension had recourse to. In fourteen days after the operation the feet were at obtuse angles with the legs, and in two months they had acquired their natural position. The boy could now put the soles of his feet to

the ground; but the limbs were still weak, and he could not stand upright without pain. The abduction of the thighs was greatly impeded by the rigidity of the pectinei muscles; these were, therefore, divided, and then free motion was established. The necessary orthopedic treatment was carefully pursued, and the boy was soon able to throw away his crutches, to walk alone, and without deformity.

CASE 2. Marie K., æt. 14. Pes equinus on the right side. The foot formed one straight line with the shin; its form was altogether destroyed, and consisted of a shapeless mass. The tendo Achilles and flexor pollicis were divided. After a few days, orthopedic treatment was resorted to, and the foot soon assumed a better form. In six weeks the cure was effected.

ART. 55.—*The Treatment of Hemorrhage.* By J. P. VINCENT.

(*Observations on some of the Parts of Surgical Practice*, 1847; p. 217.)

The most important step in managing all cases of bleeding is, that the surgeon should be most careful to keep the bleeding vessel free from all coagulum. The smallest arteries will go on bleeding if they are covered with a clot, and many considerable hemorrhages will stop if the bleeding points are quite clear from all blood; even rather large arteries will sometimes permanently cease to bleed, if kept uncovered and exposed to the air. This fact I have seen. It is known that if a divided artery be in contact with a layer of fibrine, it has a strong affinity and aptitude to shoot into it; and it is possible that a clot of coagulum has a modified effect of this sort upon the orifice of an artery, so as to keep it from contracting and closing. It is, however, certain that a coagulum over a bleeding artery keeps up hemorrhage. It is by this means that all styptics have generally failed, while, for the most part, they have only done what bare exposure will generally effect; if the blood be carefully removed, and the styptic be applied, it has the credit of supporting its character, but generally, if the blood be removed and kept from forming a coagulum, the vessels will cease bleeding, as the effect of the mere exposure of the part. The doctrine explaining the use of plugs of coagulum about an artery to restrain its bleeding was never to me very convincing. I know, practically, that arteries of a considerable size, such as those about the hand, of the size even of the radial, will cease to bleed if left quite exposed, and kept freed from a coagulum taking place about them; so, when a socket of the tooth bleeds, if it be kept quite clear of coagulum, and the oil of turpentine be applied, it will succeed in quickly arresting the bleeding. I have every reason to feel assured, from what I have tried in these cases, that the bleeding may be stopped in epistaxis upon these principles, by which the patient may be saved from the annoyance of what is called plugging. The plan of the proceeding that I have adopted is to keep the parts which are bleeding freed from all coagulum, and this should be done in this case by syringing the nostrils, so as to wash the blood out. Now, if a styptic be used, such as the sulphate of zinc, it coagulates the blood as it issues from the vessels, and so far stops the bleeding; but there is a process going on, by which this clot is loosened from its adhesion, and perhaps on the second day, the

bleeding is renewed. This will happen repeatedly; so that these cases have ended by being plugged. But what I contend for is, that if the syringing be carried on until the bleeding ceases, it will not only stop, but not recur. It is generally considered of importance that the water used in cases of bleeding should be cold, but from what I have observed, arteries will contract under the use of warm water, which has a better effect in clearing away the clots, and keeping the parts clean from the blood. I have already alluded to the influence of a coagulum in keeping up bleeding, when speaking of the necessity of squeezing out the coagulum in a pile when it is opened.

[The novelty of Mr. Vincent's views will strike every reader; we must confess, that were they from a less experienced surgeon we should hesitate in extracting them. The application of cold, in particular, has been admitted universally as a means of arresting hemorrhage; plugging and promoting the formation of a coagulum has also been very generally taught and practised. Malgaigne, we observe, treats of hemorrhage as capillary, venous, and arterial. (Operative Surgery.) In the first, he recommends the removal of clots, exposure to air, and the application of cold; in venous hemorrhage, compression of the part, so that a *clot* may form; and he gives sixteen plans resorted to by surgeons for the arrest of hemorrhage from the open mouths of arteries.—H.A.]

ART. 56.—*Luxation of the Transverse Apophysis of the Fourth Cervical Vertebra reduced on the Seventh Day; with some Considerations on Luxations of the Vertebræ in general.* By Dr. SCHRAUTH.

(*Archiv für Physiolog. Heilkunde*, and various French and English Journals.)

CASE.—J. St. B. de B., æt. 25, a weaver, was seized on the night of the 26th of February, 1843, by two vigorous men, for the purpose of throwing him out of the door. B., suspended in the air by his two adversaries, put his hands on the jambs of the door; then one of them taking him by the head and neck, and the other by the trunk, they threw him against the wall of the landing-place. B., on getting up, immediately complained of a severe pain in the neck, saying—"They must have torn a piece of flesh from my neck," and he could no longer stir his head. A barber, who was consulted the next day, rubbed it with an ointment; but as the stiffness remained the same, and the pain increased, B. went on the 28th of November, to Dr. T., the distance of a league. To relieve the pain in the neck, he was ordered repose, abstinence, bleeding, leeching, cold fomentations, and a saline purgative. In spite of the prohibition of the doctor, the patient returned on foot, although, on his arrival, he was worn out with fatigue, on the point of fainting, and covered with a cold sweat. Dr. T. went on the following day to the patient, and continued the antiphlogistic treatment; but as the state of the patient was still the same, on the 2d of December he made his report to the authorities. The author of this memoir, on the 3d, found the patient lying on the bed, his head turned to the left; he was hoarse, spoke with difficulty, was sensible, and complained of a pain in the nape, and a swelling in the left arm; he was of a middle size; of a phthisical habit; the muscles flaccid and soft; the neck long and thin; face pale; eyes haggard; the head immoveable, like a statue,

turned to the left, and a little bent forward. He could incline the head a little forwards, but every other movement was impossible; the larynx was not too prominent, during deglutition, which was easy in other respects; he experienced a sense of swelling in the pharynx. Examined from behind, the head and shoulders were bent forwards a little, the shoulder-blades projecting, and the vertebral column much sunken, and a little turned to the left. When the arms were stretched upwards and forwards, the vertebral column appeared straight, with the exception of the neck, which was bent to the left and forwards.

On pressing on the shoulders the patient felt a severe pain from the sixth to the second cervical vertebra, and a less severe one from the third to the eighth dorsal vertebra; but this latter, he says, came on later, and was propagated from above downwards. Slight tumefaction and ecchymosis of the skin, caused by leech-bites, covering the third, fourth, and fifth dorsal vertebræ. The spinous apophyses of the dorsal vertebræ were arranged in a normal right line; but the spinous process of the fourth cervical vertebra was a little turned to the right and sunk—that is to say, pushed forwards. As the patient was very thin, the transverse processes of the cervical vertebræ could distinctly be felt; the fourth was painful, and projecting to the right. The neck was visibly a little bent to the right. No unusual tension of the muscles of the neck; no symptoms of spinal irritation; pulse hard and quick; no appetite; great weakness.

Diagnosis.—Luxation of the fourth vertebra on the fifth in the articulation of their right transverse apophyses, with rupture of the ligaments of that articulation; stiffness of the neck, without lesion of the spinal marrow.

Prognosis.—Very unfavorable; for if the patient were abandoned, then would come on either inflammation, paralysis, marasmus, or at best, a permanent stiffness of the neck, and on attempting reduction, he would run the risk of the greatest danger. Notwithstanding, reduction was decided upon, which was performed with the greatest caution. An assistant pressed on the shoulders of the patient, who was seated in a chair; another pulled the head upwards, whilst M. Schrauth applied his thumb under the right side of the neck, and pushed the projecting part backwards and upwards. The patient felt his pains diminish during the traction exercised on the head.

Encouraged by the first result, the patient was made to sit on the ground, two strong cravats, passed under his chin, and knotted separately at each side above the ears, were confined to two assistants; another cravat applied to the nape, and twisted in front of the forehead, was given to a third assistant. These three men drew the head directly upwards; a fourth assistant, seated behind the patient, seizing his trunk and shoulders, made counter-extension by leaning with all his weight. Dr. T. was charged with pushing onwards and backwards the right transverse apophysis which projected, and then M. Schrauth, seizing the head with his hands, directed the movements.

The patient held M. Schrauth with his right hand to warn him when he ought to stop the tractions; the stronger they were, the more ease they produced. Whilst they continued thus pulling gently and prudently, they made slight movements forwards and backwards, to

the right and left; then they gave the neck a slight turn on its axis. During these manœuvres, which were frequently interrupted, various distinct cracklings in the neck were heard; these movements became easier by degrees, without being followed by accidents. The patient then held his neck straight without pain. After some instants of repose, M. Schrauth seized, without employing much force, the head between his hands, the body being sustained, and repeated the movements so easily, that the patient himself soon executed them alone. He could lower the chin as far the chest, raise the face to see a nail in the ceiling, and turn the head from side to side, so as to see his shoulders. The sinking of the spinous apophysis, and the projection of the transverse apophysis of the fourth vertebra, had disappeared. The success of the reduction appeared proved. B. was put to bed without bandaging; they prescribed Glauber salts with nitre, a large bleeding, twenty leeches, and cold fomentations on the neck and upper part of the back.

December 4th. Pains in the neck and back; diminution of the swelling of the left arm; sleeplessness; little thirst; pulse quick.

5th. The pains less; slept for three hours; complete cessation of the swelling; the lymphatic glands of the neck and armpit swelled; pulse soft and slower.

6th. Swelling of the glands more pronounced; the cold compresses replaced by warm applications.

After some days of repose, the patient could resume his occupation without stiffness in the movements of the neck.

[The details of this interesting observation appear to us sufficient to prove the truth of the diagnosis of this luxation, which could neither be confounded with a fracture nor with a severe contusion, and we do not think it necessary to follow the author in his long anatomical and physiological dissertation.]

On the occasion of this observation, M. Schrauth made bibliographic researches, which brought to his knowledge twenty-six other cases of luxations of the cervical vertebræ, with his own, twenty-seven. In this number, three times, death immediately followed the accident; in seven cases the patients sank afterwards, without reduction being attempted; in three cases, the consequences of the accident are not stated; three times there was a cure without reduction of the vertebræ, but the motion of the neck remained confined; in eleven reductions, nine were successful, and two were followed by death.

Seat.—The luxation took place—

Three times	between	the 1st	and the	2d	cervical vertebræ.
Twice	„	2d	„	3d	„
Five times	„	4th	„	5th	„
Twice	„	5th	„	6th	„
Twice	„	6th			„
Once	„	7th			„

In the other cases the seat was not stated.

Direction.—It was four times forwards, twice backwards, six time to the sides; fifteen times it was not recorded.

In the nine individuals (two with paralysis and loss of sensation in whom the reduction was followed by success, the luxation wa

twice forwards, once backwards, and four times sideways; and in two cases it is not stated.

The table speaks in favour of the reduction, the more so, as in many of the patients in whom it was neglected, either death supervened afterwards, or life was rendered hopeless by the consecutive accidents.

[Guerin reduced a seven months' dislocation of the second vertebra of the neck upon the third.—*Revue Médicale*, Aug. 1840, p. 276, *quoted in Chelius.*]

ART. 57.—*Case of Ununited Fracture treated by Galvanism.* By JAMES BURMAN, Esq., Surgeon, Wrath, near Rotherham.

(*The Prov. Med. and Surg. Jour.* Dec. 1, 1847.)

Mr. Thomas Lister, aged 35, a railway superintendent, of a robust constitution and regular habits, had the misfortune, in the summer of 1845, to fracture his leg by being thrown from his gig. The surgeon who attended him seems to have put the limb into a very good position, and everything appeared to go on well, till, upon removing the splints, it was found that union had not taken place; and as his constitution had suffered, partly from the necessary confinement, and perhaps partly from the want of proper stimulants, consequent upon "teetotal" practice, his surgeon ordered him a more generous diet, and removal to the coast, but still no improvement took place.

He put himself under my care, just fourteen weeks after the accident. Upon examination, I found a transverse ununited fracture of the lower third of both tibia and fibula; there was no formation of callus, and the fractured ends of the bones were quite moveable, but could be readily adapted to each other; neither was there any inflammatory action about the parts, although having been advised to rub the two ends of the bones together, he had very assiduously followed that advice. Mr. Guthrie had seen the case a few days before, and recommended Amesbury's splints, a modification of which I at once determined to try, in connexion with the application of electro-magnetism, which I had a good opportunity of doing, as my pupil was at that time making some experiments with a small apparatus. I therefore had a kind of *boot* made for him, of turned sheet-iron, which, when applied, embraced the whole leg, ankle, and foot. This I had well adapted to the limb by means of padding, so as to prevent any lateral motion—an object which was the more readily accomplished, as the fracture was perfectly transverse, and that part of the boot which was directly over the fracture was made to turn back upon a hinge, so that I could at any time get to the injured part, without in the least disturbing the limb.

With this apparatus firmly fixed, and assisted by a pair of crutches, he was directed to take daily exercise in the open air; to partake freely of wine, porter, and animal food; and, when sitting in the house, or lying in bed, to have the fractured ends firmly pressed against each other, by means of a broad band passed over the knee, and under the foot-board, capable of being tightened by a strap and buckle, the leg being bent at the same time at a right angle with the thigh. This strap was to be removed, and the limb to be permitted to hang down and partially used when taking outdoor exercise. In addition to this,

for near half an hour every day, an electro-magnetic current was made to pass directly through the fracture, by means of needles attached to the two poles of the apparatus, their points being inserted just under the skin, one on each side of the fracture. This plan of treatment was commenced on the 9th of October, 1845; by the 22d, sufficient inflammatory action had been set up to render the further application of galvanism unnecessary; and by the 30th, the deposit of callus was so copious, and the union of the fracture so firm, that at my patient's earnest solicitation I gave him permission to return to his duties, directing him still to wear his boot, and to continue the use of his crutches.

I did not see him again for some considerable time, but he informed me that after the first week he threw away one of his crutches; that the next week he grew tired of his boot, and threw it on one side, together with his other crutch, and went away comfortably about his business, with only a stout walking-stick, which he continued to use for some time; and when I again saw him, one leg was equally as firm and sound as the other, the point of fracture being marked by a thick firm band of callus.

I think I am justified in attributing the great and sudden healthy action which was set up in this case mainly to the influence of galvanism; for while similar cases under the usual modes of treatment have, under the most favorable circumstances, required long and tedious attention, this case began to improve from the very first application of the remedy; within three weeks firm union had taken place, and in less than six weeks the cure was perfect.

The electro-magnetic apparatus that I made use of was a double coil machine, excited by two *electrometers*, on Professor Daniell's principle. I at first endeavoured to establish the current by two small metallic discs, one connected with each pole, and placed on each side of the fracture; but finding that little or no *perceptible* action was thereby produced, I substituted needles for the discs, and introduced their points in an oblique direction, just under the skin, on each side of the fracture, thereby causing the galvanic current to pass directly between the ends of the fractured bone. The moment the circuit was completed by the introduction of the second needle, the sensation was most acute; but in a minute or two the pain became bearable, and the patient was able to sit under it for from fifteen minutes (the time occupied at first) to a good half hour, to which I extended it the last three or four times.

Art. 58.—*Aphorisms on the Treatment of Varicocele.* By Dr. Fritsche, of Fribourg.

(Collected from a complete Manuscript on the subject, Mechanische Annalen.)

[The various operations for varicocele here referred to, with other modern suggestions, are described at page 276 of the Second Volume of the 'Half-yearly Abstract.']

1. Varicocele is a frequent disease of comparatively little importance, since it seldom occasions any serious results.

2. For this reason the most celebrated surgeons (Boyer, A. Cooper,

Dupuytren, &c.) have generally disapproved of operations; even now, such methods of cure only are resorted to which are certain not to produce phlebitis.

3. Medicinal treatment diminishes the disease, but does not cure it. It is very useful as an adjuvant, when mechanical or surgical treatment is resorted to.

4. Mechanical treatment ameliorates the disease, if slight, and sometimes prevents its increase; but in complicated cases its utility is doubtful (except the method of Breschet).

5. A suspensory bandage, combined with internal medication, generally supersedes the necessity of any operation.

6. Operation ought not to be resorted to until all internal remedies, with a suspensory bandage, have been tried; and only in cases where the disease prevents the patient from following his occupations, or produces a mental malady or exhausting spermatorrhœa.

7. An operation may be had recourse to when varicocele is complicated with hydrocele, or reducible or strangulated hernia; but in such cases that operation should be selected which at the same time will cure the disease.

8. In cases where the disease is stationary, not much developed, and does not occasion any inconvenience, operation ought not to be resorted to.

9. All operations ought to be abandoned when adherent hernia exists, or a general disposition to varices, pyemia, organic diseases of the testicles, tumours in the abdomen, extension of the varicocele into the abdomen (Ribes and Henry Langenbeck), and in all cases where varicocele exists only as an accessory disease.

10. The process of Breschet ought to be preferred to all other methods, ancient or modern, as the safest and the least likely to cause phlebitis.

11. Although mortal phlebitis has not yet been represented as having followed the seton of Fricke, acupuncture, subcutaneous ligature, etc., and numerous cures have been effected by these operations, yet, in all such operations the dilated veins are wounded, and though their dangers have been exaggerated, it is better to prefer those methods which do not wound the veins.

12. The subcutaneous ligature of the vessels ought to be preferred to the direct ligature after the ancient and modern method, to the *enroulement* of Vidal, to acupuncture, and to compression.

13. The seton and simple acupuncture ought to be rejected, not because they readily produce phlebitis, but because they do not ensure against relapse, and they do not always produce adhesive inflammation to a sufficient extent to obliterate the vein.

14. In slight cases, when the patient wishes to be relieved from his infirmity, and when varicocele is joined to hydrocele, incision of the scrotum, with denudation of the spermatic cord, can be performed; this tedious and difficult operation can be applied to nearly all varicoceles, if care be taken to prolong the consecutive treatment, in order that the process of cicatrization be slow, so as to form a large and deep "*tissu inodulaire.*"

15. Mediate and immediate ligature does not prevent a relapse of the disease in the collateral branches.

16. When varicocele is complicated with reducible hernia, partial invagination of the scrotum can be tried, with a suspensory bandage and cold lotions, etc., to prevent relapse of both diseases. It is still better to keep the skin invaginated, with the aid of two or three sutures upon a cylinder, or with an insect needle; the patient should remain eight weeks in bed, and the herniary bandage should not be applied too soon.

17. A radical cure is not obtained without destroying the diseased part.

18. A radical cure can be obtained by obliteration of the vessels by phlebitis, by thrombus in the interior of the vein, or by plastic concretion.

19. By this treatment, the functions of the diseased vessels cease, and a new vascular network is formed in their place.

Art. 59.—*Punctures of the Scrotum in Hernia Humoralis.* By M. Velpeau.—The trivial operation which he resorts to almost entirely relieves the pain, and produces no inconvenience. He gently grasps the inflamed part with his hand, so that the thumb and index-finger may thrust the fluid which the hernia vaginalis contains towards the surface. He passes the lancet, held like a pen, perpendicularly into the most fluctuating portions of the tumour, so that its point may enter the tunica vaginalis, and in this way puncture, two, three, or four times, the portion held in his hand. Generally, a little jet of fluid is discharged, and if any inflammation occur, a cataplasm is applied. In almost all the cases the pain and redness diminish at once, and the scrotum recovers its suppleness. These punctures may be made at any stage of the affection.

Gazette des Hôpitaux, No. 136.

Art. 60.—*On the Therapeutic Effects of the External Application of Aconitum Napellus to Ulcers.* By John Grantham, F.R.S.C.—Those ulcers which Mr. G. has been in the habit of treating with the aconite are of a sphacelated and phagedenic character, occurring in patients of a gouty diathesis, where there is hypertrophy of the ligamentous tissue, and also those ulcers which often assume a sphacelated action over the region of varicose veins. The sphacelus is most superficial and cutaneous in the varicose limb, and deepest in true podagra: in the latter, composed of an abnormal deposit (according to Wollaston's analysis) formed of the urate of soda, with a little of the urates of potash and lime, chloride of sodium, and animal matter. These ulcerations are very uncontrollable, and most acutely painful, very difficult to quiet, and still more tardy to heal: such has been his experience; and instead of finding the means answering the end, the converse has been the result, until he adopted the following mode of treatment, which consists in the application of the monk's-hood. The root, stem, and leaves should be collected when the plant is in flower, and dried in the

same manner as recommended in the Pharmacopœia, i. e. "in the shade." An infusion should be made of the whole plant, as Mr. G. has found a decoction of the plant deficient in efficacy. The liquor should then be carefully strained off, and a poultice made of the fluid with bread, and applied as hot as the part will bear, and the heat maintained by covering the poultice with wadding, and changing the poultice more frequently. It is of no small importance in treating ulcers to keep up the natural temperature of the whole limb: there is a normal vitality which is essential to the healing of all wounds.

Mr. G. wishes it to be understood, that the above treatment will not at all times possess the same salutary therapeutic action on the part; but he is confident it will be found a very beneficial application in the cases he has named, after regulating the general health, by removing congestion of the brain, liver, or intestines. The effect of this dressing will be to enable the living part to throw off the dead matters and assume a healthy process. The aconite has been used internally by Stoërk in gout and rheumatism; and subsequent authors have written favorably of its effects wl[illegible] taken internally; but its use as an external application does not appear to have attracted the attention of medical practitioners.

London Medical Gazette, Aug. 6, 1847.

Art. 61.—*Subclavian Aneurism cured by Galvano-Puncture.* By Dr. Abeille.

(*Monthly Journ. of Med. Science*, Jan. 1848.)

The patient, a female of 65 years of age, had been affected with aneurism of the left subclavian artery during eighteen months previously to her requesting the professional services of Dr. Abeille, principal medical officer in the military hospital of Givet (Ardennes.) The tumour was situated between the *scaleni* muscles, and was the size of a hen's egg. It was the source of much suffering, sleeplessness, and ringing in the ears of the patient. Added to these, she had a continual fear of sudden death, wh[illegible]h induced her to submit to the performance of any operation which might be thought necessary for her relief. M. Abeille, considering the difficulty and doubtful practicability of applying a ligature on the vessel between the aneurismal dilatation and the heart, determined to give a trial to the method of cure, by passing a galvanic current through the contents of the sac.

After performing a series of experiments on dogs, which assured him of the possibility of obtaining a favorable result, the patient was submitted to the following operation, on the 20th of February, 1847.

As soon as the patient was rendered insensible to pain by the inhalation of ether, two pair of needles were inserted into the tumour to the depth of an inch, and a strong galvanic current was established in connexion with them. At first, the effect on the patient was slight, but at the end of five minutes it required four assistants to hold her. The operation was continued for twenty-eight minutes. During this time the tumour was felt to be becoming gradually solidified, and before the withdrawal of the needles it had become perfectly solid, and pulsation was no longer felt in it or in the brachial or radial

artery below. The limb became engorged, and the patient complained of its being benumbed and prickling. During the operation, the artery above the tumour was partially compressed by an assistant. After the operation, this compression was continued by means of an apparatus for five or six hours. In withdrawing the needles, two of them were removed with ease, but the others required a good deal of rotary motion, and some drops of blood escaped from the punctures. The patient maintained the same position in which she had been placed during the operation, for eight or ten hours afterwards. For forty-eight hours after the operation no pulsation could be detected in the arteries of the limb. No œdema, however, ensued, and sensibility remained unimpaired. At the end of this time the radial artery began to pulsate, and the limb gradually recovered its natural temperature. About the eighth day the tumour appeared to be diminished in size, and this diminution progressed gradually, so that at the end of thirty-eight days nothing but a small, oval, firm tumour could be felt on pressing strongly with the fingers in the situation of the swelling. During the first few days which followed the operation, there was some threatening of cerebral congestion, which was relieved by bloodletting.

No symptoms of inflammatory action manifested itself, either on the surface or in the tumour. From the punctures of the two needles, which were withdrawn with difficulty, there was slight discharge of blood and matter for three days, but they were cicatrized a few days subsequently. The report is given seven months after the performance of the operation, and it is stated that there existed, at the end of that time, no trace of the aneurism; and in its place a hard, flattened cord, to which the skin adhered. Immediately above the situation of the aneurism, two enlarged collateral branches were felt pulsating strongly. The patient was in the enjoyment of perfect health.

Annales de Thérapeutique, Novembre 1847.

ART. 62.—*Excerpta from* DR. PORTER'S *Lectures on Syphilis.—Syphilitic Ophthalmia.*

(*Dublin Med. Press*, April 7, 1847.)

Syphilitic inflammations of the eye, like all others, are either acute or chronic. In the syphilitic ophthalmia, I believe all the structures participate more or less, and therefore we may not form an opinion of the acute or chronic character of the disease, by the presence or absence of vascularity, cloudiness, pain, indistinctness of vision, or any other symptom, but by all, and the evidence they afford of the depth and extent to which important tissues may be engaged.

In its most acute form, the approach of the disease is insidious, although its progress, when once established, is commonly very rapid: often when questioned on the subject, the patient is made aware that he had experienced an indistictness or imperfection of vision for some time before any trace of external disease could be observed. Mr. Hewson notices an amaurotic condition of the pupil as occasionally occurring at the commencement; and, moreover, one of the most constant symptoms is a sluggishness of the iris, and an inaptitude in its answering the stimulus of light, before its colour is altered, or it

affords other indications of being inflamed. There is often a sense of dull pain and weight in the organ, a susceptibility of fatigue, and an incapability of using it by candlelight long before any external appearance is remarked, and before the patient applies for relief.

The appearances of inflammation on the conjunctiva are very variable, sometimes exhibiting great intensity, and sometimes but very trifling; the vessels of the sclerotic coat are, however, more or less enlarged, and run in tolerably straight lines from the circumference towards the cornea, about three lines from which they break off into a number of minute branches, which form a vascular network among themselves, and disappear about half a line distant from its edge. Thus is formed between this vascular circle and the cornea, a ring of pale gray colour, apparently free from vascularity. This ring is broader and more observable in old patients than in young, and occasionally is not remarked at all, the network of red vessels coming closely up to the margin of the cornea.

The structure of the cornea itself is probably not engaged; but I think that it becomes more conical. Perhaps it would be more correct to say that it becomes more prominent; for it is the shape of the eyeball that appears to be changed, becoming egg-shaped, the narrow end of the ovoid figure being anterior. This is a symptom which I have remarked in many cases; and as they have almost always proved unfortunate, I regard it as indicative of some mischief amongst the deeper and more important structures of the eye—probably of the choroid membrane of the retina, and therefore likely to terminate unfavorably. The cornea, however, sometimes seems to be clouded, as if lymph had been deposited amongst its laminæ; but this appearance is deceptive, and really proceeds from a turbid condition of the aqueous humour, as may be observed by looking at the eye in profile, when the cornea itself is seen clear and cloudless, whilst the opacity is evidently placed behind it.

Like other symptoms of syphilitic ophthalmia, this varies in intensity: sometimes it is scarcely perceptible, whilst in other cases the opacity is so great as to prevent the condition of the iris from being accurately ascertained.

As it is from the iris the disease has taken its conventional name, the state of this organ has been most accurately observed and described. Almost immediately at the commencement of the disease, the motions of the pupil become dull and sluggish; soon this aperture is observed to lose its circular form and take some irregular one, generally appearing as if a portion of the circle had been cut away with a scissors. Sometimes the change of shape is more strikingly remarkable, being angular, and indeed assuming a variety of figures; and these deviations are always exhibited most clearly by applying belladonna to the eye. This symptom has been generally explained by supposing that adhesions had been formed between the uveal surface of the iris and the capsule of the lens, and doubtless such adhesion very frequently takes place. But I think the deformity is sometimes caused by lymph effused among the fibres of the iris itself, embarrassing their motions and preventing their contractions from being as free in one part as in another. When disease is formed, the pupil is always contracted; and as I cannot

regard this condition as a state of rest, I look upon it as indicative of the existence of inflammation among the deeper structures, from which the light is thus sought to be excluded. The consistence and direction of the iris seem altered also. It is thicker and more gibbous, particularly at its pupillary margin, which sometimes appears to be pressed backwards towards the capsule of the lens, and then the iris is no longer a perpendicular plane, but a cone, the apex of which inclines towards the lens. At the more advanced periods, and especially when it is about to terminate unfavorably, we often observe the iris to form a conical figure, the apex of which takes a contrary direction, being pushed forward into the aqueous humour. This occurs in consequence of inflammation, swelling, perhaps of alteration of structure in the deeper parts; and is always the forerunner of disorganization of the eye, and consequent loss of vision. The change of colour in the iris is too remarkable to be passed over. It seems to be produced by the combination of the yellow tinge of the lymph with the natural colour of the part. Thus the brown iris is changed to a bright amber, the blue to a sea-green, and so on. Besides, when the eye is viewed through a magnifying glass of even moderate power, small blood-vessels, like hairs, are seen ramifying on its surface; and Mr. Hewson has remarked spots of ecchymosed blood, which, seen upon a green iris, gave it a similitude to the red specks upon a bloodstone.

Such is a brief outline of the local symptoms of syphilitic ophthalmia, as they appear in the first stage; but along with these, as in other forms of the disease, some constitutional disturbance is to be expected. I have never seen fever antecedent to, or in combination with, venereal affections of the eye, unless we chose so to call that wretched irritable state which is often induced by intense pain, loss of sleep, and perhaps, also, by the fear of losing so invaluable a faculty as sight. When cutaneous affections are present (and they generally are so), there may have been those premonitory attacks of pain and fever that I have already described; and it must be considered fortunate for the patient if they are so; for the syphilitic character of the ophthalmia might be otherwise overlooked, and the eye actually lost in consequence. I have known an instance where a beautiful young lady lost her eye, from the nature of the disease having never been suspected; yet it was subsequently proved by the appearance of eruptions, and the taint was supposed to have been communicated by a kiss. I recollect a young professional man, whose sight, which must have been invaluable to him, was very nearly lost, from his having no kind of suspicion that it could be affected by venereal. He had chancres some months previously, which were treated on the non-mercurial plan, and healed; and he certainly had not the slightest idea that the sore eye was, or could be, a secondary symptom of the disease. The syphilitic ophthalmia, if allowed to progress without control or check, ends in the destruction of the organ; and this it will do under any treatment but the mercurial. I care not what the line of practice is. It may be antiphlogistic or irritating, soothing or stimulant, without mercury, all or any must be unavailing; and I wish to impress this one practical fact upon you, because it must establish the necessity of being able to form a correct diagnosis.

The best possible diagnostic is the presence of some other unquestionable symptom, such as one of the eruptions; in fact, it is the only one that can be relied on in the first instance. Still, although any one symptom may be very uncertain, I think the assemblage of many of them taken together, along with the history of the case, and the general appearance of the patient, will not leave us long in doubt. Thus, if a patient had a primary symptom previously, for which mercury had not been used, or used insufficiently—if he was pale and haggard, subject to night-sweats, easily fatigued, and occasionally suffering from rheumatism—a very slight development of the symptoms of deep-seated ophthalmia would lead me to regard it as venereal, or, at least, to treat it as such. It has been stated that the pain is greater in the idiopathic iritis than the syphilitic. Like all other venereal symptoms, the pain is variable, sometimes slight, sometimes excessively acute; but, under all circumstances, if the case is really venereal, one characteristic is scarcely ever wanting, that of nocturnal exacerbation. As the evening falls the pain begins to increase; it is shockingly severe during the night, and as morning dawns it gradually abates, and allows the patient the only short slumber he can obtain. It is also stated that the intolerance of light is greatest in the idiopathic disease, and perhaps in some instances it is; but this symptom is extremely variable. The iris is more sluggish, its colour more completely changed, and vision more impaired in the venereal. With the assistance of all these, and even taking into consideration the collateral evidence, it is nevertheless possible to fall into error during the first stage of the disease. The second stage cannot be mistaken, as it is characterised by the formation of tubercles or abscesses in the iris.

Previous to the appearance of this symptom, there is usually an exacerbation of every other; the pain both of the eye and the head greatly aggravated; the vascularity of the organ greatly increased; the muddiness of the aqueous humour rendered more remarkable; and the vision more impaired. The small hair-like blood-vessels on the iris are then seen congregating towards one spot, and soon a little pimple-like elevation makes its appearance, the base of which is red and very vascular, the apex yellow, as if it contained matter. When there is but one of these, it is usually placed on the margin of the pupil; when two or more, they may occupy any part of the surface of the iris indifferently. After some little time, these burst and discharge a viscid, tenacious material, which is very slowly evacuated, which may occasionally be seen hanging in minute stringy flakes from the orifices of the tubercles, and which fall to the bottom of the anterior chamber, where it resembles purulent matter, and constitutes the venereal hypopion. When completely emptied, the small transparent cyst that contained the substance remains for three or four days, and when it is absorbed, a small cleft or fissure is observed in the iris at the spot it occupied. Several pathologists suppose these tumours to be abscesses, and their contents purulent matter; whilst others regard them as tubercles containing lymph; and if it be a point of any importance, I should think the latter the correct opinion, because the cyst, when burst, does not empty itself at once, or collapse, or diminish in size; and its contents are thick and ropy, instead of being fluid, like pus. But

the appearance of this second stage is of immense importance, because it tells at once that the disease is syphilis, it being now the commonly received opinion that these tubercles only occur in that form of ophthalmia —an opinion so generally true, that it may be almost universally received and acted on; but still, I fear, admitting of some few exceptions. But it is still of more importance as indicating that the eye is permanently injured—that both the beauty of the organ and the perfection of its functions are impaired for ever. Even where mercury has been employed with all possible activity, although the contents of the tubercle should be absorbed, and its little transparent cyst subsequently disappears, still the pupil remains angular, contracted, and distorted. The eye cannot admit a sufficient quantity of light; and, moreover, in too many cases, the retina does not seem capable of duly receiving its impression.

1. After the disease has existed for a fortnight or three weeks, the pupil is observed not only to have diminished, but so firmly fixed and immovable as not to be under the influence of belladonna; and a short time afterwards this contracted pupil is found filled by a white or yellow spot, consisting of lymph, which remains there whilst the patient lives. There is reason to believe that the entire of the uveal surface of the iris is covered with lymph, and the portion of it which lies in front of the capsule of the lens firmly adherent to it. Sight is now lost; nor is there a chance of its being ever recovered, except from that most uncertain of all operations, an attempt to form an artificial pupil.

2. Occasionally, and indeed not very infrequently, it happens that a patient shall have been put through a course of mercury, and have left the hospital either in a state of convalescence or of apparent recovery, and yet return after an interval of some weeks with the pupil closed, and really in a most hopeless condition. The iris has now a plain surface, unmarked by even the remnant of a pupil, or a speck, or a spot to show where it had been, or else lines like radii are seen striking from a central point, no larger than the point of a pin, towards the circumference. There is no apparent deposition of lymph, as in the case already described. All this mischief has happened, and no satisfactory explanation of its cause can be afforded, unless that during all that time a slow and chronic inflammation had been disorganizing and destroying the eye, and yet occasioning so little pain as to be unheeded or disregarded. In these cases, the patient can frequently distinguish daylight from darkness, and thus a delusive opinion of the soundness of the deeper structures may be created. In other instances, such faculty does not exist, and the patient is saved the pain of an operation, and the misery of disappointment afterwards; for I have never known an attempt to restore vision in any of these cases followed by even the smallest benefit. There is still another form in which syphilis may attack the eye. There is, or appears to be, an universal inflammation of the organ, commencing in, and principally confined to, the deeper structures, but eventually implicating all, and terminating in what Mr. Hewson, who first described the affection, has (perhaps erroneously) called an abscess. It begins by a deep, intense, and agonizing pain in the bottom of the eye, in the temple, and perhaps in one

side of the head, which pain is aggravated at night, at which time the patient's sufferings are indescribable; the eye, notwithstanding, exhibiting little or no alteration, to lead to a suspicion of the impending mischief. The next symptoms are an evident enlargement of the whole ball, with a fixed immobility of the iris, which appears pressed forwards into the anterior chamber, and whether contracted or dilated, is wholly insensible to the stimulus of light. Perhaps this might be termed the first stage of the disease, and perhaps also, up to this period, it might be possible to arrest its progress, and save the eye by a rapid exhibition of mercury; but the nature of the malady is not suspected, and the opportunity, if it really exists, is allowed to pass away. Soon symptoms of conjunctival and sclerotic ophthalmia make their appearance—vascularity, increased secretion of tears, pain, and a sensation as if a grain of sand, or other irritating substance, had been admitted under the palpebræ; and at this period, on looking deeply into the eye, a yellow opaque substance is generally perceived deeper than the iris, and as if fixed in the vitreous humour. The next step is that the eye assumes somewhat of the appearance of an abscess. A yellow spot is seen on the sclerotis, external to the cornea, which is soft and prominent, and presents precisely the characters of an abscess about to burst. Occasionally, even in the same eye, a similar demonstration of pointing is observed in the iris, as if the matter was about to make its way into the anterior chamber. At length, after intense and protracted suffering, the swelling bursts in one or both these situations, and a mass of yellow tenacious lymph is pushed forwards, but not discharged, neither does the eyeball collapse. This lymph comes away in flakes and strings, is detached very slowly, and in proportion as it escapes, the pain abates; but the eye falls down within the socket, and not only is vision lost, but a very unsightly deformity remains, that can only be palliated by the closure of the lids, or the adaptation of an artificial eye. It is well for the patient that this disease never attacks both eyes at the same time, and seldom passes from one eye to the other; and thus, although condemned to lose the one by a painful, harassing and nearly incurable affection, he is in less danger of total blindness than from the disease previously described, that which is usually called iritis.

Antiphlogistic measures, bleeding, the use of internal medicines, collyria, ointments, or other external applications, which might be useful in simple inflammations of the eye, are totally ineffectual in this. They cannot be relied on for a cure for the specific disease.

I have often had occasion to remark the great apparent superiority of ophthalmic surgery as conducted in a dispensary, to that practised in an hospital, and even in institutions where wards are set apart for diseases of the eye. Every day's experience tends only to confirm the opinion.

Art. 63.—*The Treatment of Onychia.*—Onychia forms about the root of the nail, detaches the nail from its living connexions, but still the parts are not robbed of the power of keeping up its growth. This is a most painful state of things; and, in the usual method of treating the complaint, a most torturing operation is resorted to, that of cutting

or tearing off the portion of the nail. All this pain the patient may be saved, by first getting the finger as quiet as possible, by soothing measures; and when this is done, to insinuate a shred of lint, by means of a probe, hammered flat, so as to pass this small portion as far as it can go between the sore structure and the surface of the nail; and if this piece of lint be moistened with a weak solution of nitrate of silver, the beneficial effect will be apparent in twenty-four hours. The sores will heal quickly, and the pain will be subdued. The simple lint should be kept insinuated for some time, even after the sore is healed. The nail will grow to its usual length, and the hollow sore will be filled up before long.

Vincent's Surgical Observations, 1847; p. 235.

ART. 64.—*On Fracture of the Clavicle.* By M. VELPEAU.—Very unnecessary fears have arisen from the bone uniting not quite regularly. It is true it cannot always be effected without some slight deformity; but this is of no consequence in men, and even in women is only seen in such as are of spare make. This need not take place when the fracture is situated in the external third of the bone, the fragments being maintained *in situ* by the ligaments and muscles, so that a bandage is not even necessary. When the fracture occurs within the inner two thirds, there is always some displacement, in the adult, although this does not take place in very young children. The most complex apparatus is in nowise preferable to the following simple plan of treatment. A bandage is carried from the armpit of the sound side, across the back and shoulder, to the fractured clavicle. The patient's hand is brought up to the sound acromion, so as to raise the elbow as high as the sternum, the shoulder being thrown backwards and upwards. While an assistant holds the limb, the bandage is repeatedly passed over the anterior part of the arm, and brought round by the sound armpit; and over this is passed one well moistened with dextrine, so as to produce an inflexible mould. The bandage need not be put on for four or five days after the accident, and in from a week to a fortnight the fracture will be sufficiently firm to allow of its removal. It is an error to suppose that a patient cannot raise his arm to his head when his clavicle is fractured. He believes he cannot, and is prevented from trying by the pain it causes; but if you insist upon it, and that not doubtingly, you will find he can accomplish it. I have not seen six exceptions in twenty years.

British and Foreign Medico-Chir. Review, from the *Gaz. des Hôp.*, No. 115.

[Mr. Vincent states that he treats all fractures of the clavicle by merely placing the patients on flat beds, by which the parts assume and preserve their natural position. Bandages, he says, seem to do little good commonly, and are not required if the patient keeps his bed. A cabman broke both clavicles at about the middle part; Mr. Vincent merely placed him in bed. In three weeks, both bones were united, and without deformity, although there had been considerable displacement at first.—*Surgical Practice*, 1847, p. 42.]

Art. 65.—*Case of Axillary Aneurism for which the Subclavian Artery was tied with success.* By James Syme, Esq., Professor of Clinical Surgery in the University of Edinburgh.

(*Monthly Journal of Medical Science*, October 1847.)

A gentleman, æt. 34, applied to me on the 25th of July, on account of an axilliary aneurism of the right side. It was of a large size, filling the axilla, and pressing forward the pectoral muscle so as to be distinctly perceptible through the clothes. The patient stated, that about sixteen years ago he had fallen down a stair, and, by an involuntary effort to save himself, had seized the railing with his right hand, and consequently sustained a very severe wrench. With the exception of some pain and the ordinary uneasiness attending such an injury, he had not afterwards suffered any noticeable inconvenience further than an occasional difference of temperature in the hands, until about ten months ago, when he began to suffer from pain in the little and ring fingers, which gradually became almost constant. More lately, the axillary tumour had attracted attention; and on the 29th I tied the subclavian artery where it emerges from the scalenus anticus, by a single silk ligature, drawn with all the tightness in my power. No inconvenience whatever was experienced, the ligature separated on the fifteenth day, and the patient at the end of another fortnight returned home, perfectly free from pain, and with hardly any perceptible remnant of the tumour.

In performing the operation, I made an incision along the clavicle, so as to extend over the sterno-mastoid and trapezius muscles, and another from the centre of this upwards, parallel with the edge of the latter muscle. The dissection was conducted entirely by the knife and forceps. The needle was passed under the artery with its convexity upwards, and the ligature was tied by the unaided effort of the fingers. It has been advised to pass the needle with its convexity downwards, or towards the clavicle, with a view to protect the vein from injury. But this vessel is not at all in the way, while the cervical nerves are so situated in regard to the artery, as in general to render it nearly, if not quite, impossible to convey the ligature from below upwards. It has also been advised to employ the assistance of some mechanical contrivance for tightening the knot; but I feel persuaded that the thread will always be within reach of the fingers, and may be more safely tied by them simply, than with the intervention of any instrument.

Art. 66.—*The Treatment of Subcutaneous, Submammary, and Parenchymatous Abscesses of the Breast.* By M. Velpeau.

Subcutaneous inflammation of the breast proceeds much as an ordinary phlegmon. When the abscess is formed between the mamma and the chest, the swelling is considerable, the breast raised up; but after an incision the cure usully takes places rapidly. But when the phlegmasia invades the substance of the breast itself, it is rare to find only a single abscess produced. We sometimes see 10, 20, 40, or 50 manifesting themselves in succession. An instant's reflection will

show that this result is a natural consequence of the anatomical disposition of the inflamed tissue. The glandular parenchyma consists of different lobules, each of which constitutes a little organ having its own function, and which may become heated and irritated under the influence of lactation. Each lobule does not attain at the same time the same degree of irritation. One first inflames, then suppurates, and constitutes a first abscess; a neighbouring lobule then becomes affected, and, in its turn, forms an abscess; and so it may go on with all of them, until we have as many successive abscesses as there are lobules.

This distinction of abscesses of the breast into at least three orders, is of the highest importance; and if we do not adopt it, our ideas upon the subject will be but very vague, and devoid of all precision as respects prognosis and treatment. Parenchymatous abscesses may last four or six months, or a year even, according to the rapidity of their succession and their number. The subcutaneous abscess lasts only as long as an ordinary phlegmon; and the submammary abscess has not the long duration of the parenchymatous one.

Each of these has its special treatment. We may endeavour to procure the resolution of *subcutaneous abscess*, and that by ordinary means; and if suppuration occurs, we open it promptly, in order to avoid the burrowing of the pus among the tissues. *Submammary phlegmon* should be treated especially by general measures, and leeches around the nipple. Topical applications are of little use, as they are separated from the centre of inflammation by the whole substance of the mammary gland. When an abscess is formed here, its prompt evacuation is desirable; but the perception of fluctuation is difficult, for the pus is surrounded by a large mass of tissues, and the thoracic parietes have not fixity enough to serve as a point of support. Nevertheless, you may recognise the existence of pus by the following characters. 1. An acute phlegmon rarely exists more than seven or eight days without suppuration taking place. 2. The breast is raised up like a sponge, and if we press upon it, it seems as if it were lying on a bladder full of fluid. 3. We find the breast surrounded by a kind of inflammatory œdema. Having recognised the pus, we should let it out promptly, or we expose ourselves to seeing it traverse the gland and form one of those abscesses I call *shirt-buttons*. These abscesses, moreover, have a mischievous influence upon the chest, and may lead to purulent pleurisy. They may, too, penetrate into the cellular tissue to a distance, and give rise to a diffused phlegmon. The incision should be made into the most dependent part, the place of election being below and at the outer side of the nipple; but in some cases, a projecting point of the abscess indicates the place at which the opening should be made. It is always advantageous to make the incision towards the circumference of the breast, because the gland itself is not touched, and its weight tends to expel the pus. The bistoury should be directed almost parallel with the thoracic parietes, so as to slide it in between these and the mamma. The danger of such incisions is not so great, there being no large arteries to fear. *Parenchymatous phlegmon* requires an energetic and varied treatment—bleeding, purging, and the so-called anti-lacteal medicines.

When pus forms, which is almost always the case, topical applications and incisions seldom prevent the successive implication of the lobules. Nevertheless, there is some advantage derived from the prompt opening of the abscess, *if the patient agrees to it*, for you should recollect, that in practice, if you open one abscess and another form, she never fails attributing these to your proceedings. These details will, I think, suffice to show you how important it is to distinguish the different abscesses of the breast, and to explain to you the confusion which prevails in the minds of some surgeons as regards their treatment.

[Chelius refers to the three orders of abscesses of the breast, but we have nowhere seen the anatomical distinction and the differential treatment so clearly defined.]

The Medico-Chir. Review, Oct. 1847; from the *Gaz. des Hôp.*, No. 89.

ART. 67.—*Spermatic Discharges: their Effects and Treatment.* By BENJAMIN PHILLIPS, Esq., F.R.S.

(*Excerpta from a Paper in the London Medical Gazette*, March 24th, 1848; p. 489.)

I have no means of knowing the amount of Lallemand's experience at the time he concluded his work; but the cases contained in his treatise amount to 115. My own experience very much exceeds that: I have been consulted in nearly 700 cases. I have memoranda of 623. He gives the particulars of 115 cases of involuntary discharges; of these, 20 were, it is said, the result of gonorrhœa, 10 of skin diseases, 13 of rectum complaints, 14 of masturbation, 21 of venereal excesses, 21 of various congenital defects of the genital organs. Of these cases he seems to have cured about 90, and to have failed apparently in 8 or 9 cases. He seems to have cured 55 mainly by the use of lunar caustic. He appears to have cured 34 by other means, caustic having failed, or it was not used.

Of the 623 cases (in Mr. Phillips's experience) only 33 had sustained any evil influence than that which was fairly attributable to great mental depression, and that depression was commonly the result, not of the extent of discharge, but of the anticipated consequences of its continuance—those anticipations being, in most cases, derived from the perusal of such books as are usually circulated on the subject. Of the 623 cases, 581 were under 25 years of age, a pretty conclusive proof that time and accident do much to bring these cases to a favorable termination or to death; and I have no reason to think that many of these cases end in the destruction of life. In 530 instances the patient had either never indulged in sexual intercourse, or he had more or less completely abandoned it, generally from inability to continue it. In a large number of instances, masturbation was admitted; in many cases it did not seem to have been carried to any considerable extent; in a majority of cases, it was said that the practice had been discontinued for months, or even years, before the existence of the present complaint. In 597 cases the discharges did not occur more frequently than twice a week. In 26 instances they occurred more frequently than that. In a great majority of cases, they only happened

at night, during dreams, and the patient was conscious of their occurrence. In 27 cases, discharges were now and then observed to occur during the straining at stool, and in some instances after the passage of urine; and in these cases I have observed that the mental depression is much greater than in others, because quacks paint the consequences of such discharges in much gloomier colours than those which are accompanied by orgasm. In 16 only of my cases had the patient ever suffered from gonorrhœa, in only one instance could I make out any connexion between any skin disease and the discharges. In only one instance could I satisfy myself that the discharges were kept up by irritation excited in the rectum by ascarides. In only 4 instances could they be referred to venereal excesses.

It will be understood, then, that in my experience the so-called involuntary discharges have not been attended with such disastrous results as in that of Lallemand. When I have witnessed these injurious results, I have been convinced that the discharges have usually been voluntary, that they have been more or less completely owing to masturbation, which the patient continued to practise. These I have found the most difficult to manage, for neither lunar caustic nor moral reflections will master the habit here, although all such cases in Lallemand's practice yielded to nitrate of silver. The most certain remedy appears to me to be sexual intercourse. I constantly tell patients that if the habit of masturbation be continued they had better not submit to treatment, for it will be of no avail.

I have not observed either the almost certain good effects, or the after-trouble, to which Lallemand alludes when speaking of the application of lunar caustic; at the same time I have no doubt that the remedy is a valuable one.

It is singular how uniform is the description of symptoms given by patients in these cases. There are few who do not complain of loss of strength, loss of memory, and confusion of mind; there are many who complain of pains in the loins and palpitation of the heart; but in a very few cases are these complaints not more imaginary than real. The alleged loss of strength rarely interferes with the ability to perform ordinary duties. The loss of memory is real enough, but it is simply that the preoccupation is so complete that nothing but the circumstances of the malady makes any impression on the mind; and the palpitation of the heart, unless under nervous excitement, is by no means of common occurrence.

My own experience has convinced me that the only certain means of relief in most cases is to be found in moderate sexual intercourse; it usually puts an end to masturbation, and the activity of the organs is most certainly mitigated by this means. I always feel a difficulty in recommending the remedy, because I cannot reconcile it to my conscience to advise a course of profligacy; and therefore I advise patients to marry, but, as may be supposed, a very common answer is, that it is inconvenient. It is never prudent, where a man alleges that his sexual energy is lost, to advise experimental connexion, because with the misgivings in his mind he will almost certainly fail, and we shall in this way only add to his distress. If it be tried *at all*, some permanent connexion should be formed, and he should be prepared to expect

many failures, but a single success occurs, and the phantom which haunted his mind is at once dissipated.

In most of the cases, however, which have come in my way, sexual connexion has not been attempted, and, either from fancied inability to accomplish it, or from an objection on other grounds, it will not be attempted. These cases are difficult to manage, and in all probability the discharge will persist in spite of all that may be done; and all that remains for us is to endeavour to convince the patient that when they do not occur oftener than twice a week, years may pass without any weakening influence on the constitution being exerted by them. Even when all evil habits have ceased, that is to say, when masturbation is no longer practised, and lascivious images are carefully and completely excluded from the mind, these discharges will often persist for an indefinite time, apparently by virtue of the activity which has been set up in the organs, and which is long maintained by habit.

There is yet another class of patients who, although they suffer occasionally from involuntary discharges, complain principally of the too rapid ejaculation which occurs when connexion is attempted, happening often before complete erection takes place. For the most part I have found such persons to possess very excitable temperaments, and they make these attempts unfrequently, although a species of sexual excitement is kept up. Again, in these cases the remedy is to be found in a regular and not too frequent relief to the tension which is maintained in these organs. I have rarely known a case where such a plan has been faithfully followed without complete relief; but I have, in such cases, occasionally observed the good effects of cauterization, which, in them, seems to act by lessening irritability.

Respectable practitioners often do harm by exciting hopes of amendment or cure from the employment of tonics and stimulants, such as various preparations of iron and cantharides; they are very rarely of any use, and after persisting in such means, often for months, the patient is doomed to disappointment and increased despondency. The truth is, it is not debility which we have to do with, in most of these cases, but an increased activity of the secreting organs, and relief is most certainly obtained by periodically relieving the seminal vesicles from the distension to which they are subject.

The cases which are improved by local applications, whether of lunar caustic or any less energetic agent, are a small minority. In the early part of my experience, and following in the train of Lallemand, I applied lunar caustic to the urethra in most cases, and in many with seeming benefit to the patient; in some with complete relief to the symptoms, but in others the discharges continued unchanged.

The rule upon which I then acted I now follow; that is to say, I do not usually employ lunar caustic when there is no other indication of morbid action than is furnished by the occurrence of these discharges. Where there is increased sensibility, and chronic discharges, I often apply caustic upon the portion of the canal which appears to be the seat of morbid action, and often with great success. Where there is contraction of the canal of the urethra, I endeavour to overcome it by the use of dilating bodies; and when the discharges are kept up (which is in my experience very unfrequently the case) by such contractions,

relief is sometimes obtained. But there are cases in which I have applied the lunar caustic, although there was no reason to believe in the existence of any morbid action on the mucous surface of the urethra. The truth is, that many persons present themselves under profound despondency. Many means have been employed and have failed; it is soon evident that they are not content to take advice only, but they are extremely anxious to have something done; and I have on many occasions applied caustic, because the patient had great faith in it, and would not be satisfied unless it were employed. In such cases I have first endeavoured to dissipate from the patient's mind the fears by which he was beset. I have applied the remedy, and recommended the patient not to expect any very decided relief for two or three months. I have had no hesitation in applying caustic under such circumstances, because, with all my experience of it, I have never known any mischief to follow its use, except in two instances, where there was retention of urine in the evening of the day.

Whenever I apply caustic I seek to determine a discharge which persists for twenty-four or forty-eight hours; if that effect is not produced, the full effect of the remedy is not obtained. If there be reason to think that a chronic discharge be kept up by inflammation or by strictures, and that the spermatic discharges are dependent thereupon, they must be got rid of before we can hope that the spermatic trouble will cease; and even when they are got rid of, habit may cause it to persist almost indefinitely.—Vide the *Report on Surgery* in the present Volume.

ART. 68.—*Removal of the Parotid Gland.* By Professor PANCOAST. Reported by ELLERSLIE WALLACE, M.D., Demonstrator of Anatomy in Jefferson Medical College.

(*Medical Examiner*, July, 1847.)

The patient was a woman, æt. 60. The disease commenced upwards of ten years ago as a swelling of the gland, of an acute character, simulating ordinary parotitis. After the acute symptoms had passed away, the gland did not return to its normal size, but remained a little enlarged for a few years. It then began to increase in size. Its growth increasing more rapidly within the last year, and being accompanied by shooting pains about the face and forehead, she came to Philadelphia to seek surgical aid, and, consulting Dr. Pancoast, gladly consented to an operation in hope of a cure.

The tumour was on the right side of the face, nodulated and irregular in its external aspect, and appearing about half the size of a man's fist. It extended from a little above the zygoma to a short space below the angle of the jaw, passing forward over the greater part of the masseter muscle, and backward under the ear, so as to elevate and press posteriorly the anterior border of the ear; it likewise nearly surrounded the auditory meatus, and also overlapped the insertion of the sterno-cleido-mastoid. When grasped firmly, it was found but slightly moveable, deeply fixed, and firm in its texture, except at its upper part, where there seemed a local point of softening. None of the surrounding lymphatic glands seemed at all involved. The

complexion of the patient was somewhat straw-coloured, though she appeared vigorous for her age.

Operation.—The patient was placed on her left side, with the head and shoulders elevated, and her head well turned towards the left shoulder. The tumour was exposed by a single incision, shaped something like the italic *f* reversed; it was commenced above the top of the ear, and carried forward and downward to near the centre of the tumour, then in a direction sloping slightly backwards to just below the lobe of the ear, when it was again directed forward, downward, and nearly vertically, leaving a concavity in front, and terminating about an inch and an half below the base of the jaw, and somewhat within the inner edge of the sterno-mastoid. The dissection was then commenced by reverting the flaps so as to expose the tumour, and continued by separating the diseased mass first above, then posteriorly, next anteriorly, and lastly below. Some vessels bled from the surface of the tumour, as well as some small arterial branches from the flap, but by pressure of the fingers, and the application of a few ligatures, all material hemorrhage was arrested.

Dr. Pancoast now sought for the external carotid artery, with a view of placing a ligature upon it near its entrance into the tumour: this required a slight increase in the length of the first incision, as, from the size and attachments of the tumour, it was somewhat difficult to reach the vessel. It was isolated, however, with its vena comes, and the two were raised on the director, and Physick's aneurismal needle armed with a ligature passed under them along the groove in the director, and both secured in the loop. From this moment to near the conclusion of the operation, there was very trifling hemorrhage. The vessels were now cut beyond the ligature, and while strong traction was made upon the tumour, Dr. Pancoast detached it from its connexions to a still greater distance below. The patient complained much of the pain caused by the upward traction. The tumour was next loosened to a greater extent above, as well as posteriorly and anteriorly. The central part of the tumour, deeply seated, was the last part detached; and a strong jet of blood, by retrogression from the internal maxillary artery, as the final cuts were made, required that a ligature should be applied to the divided vessel. This ligature, with two on smaller bleeding vessels, and the one on the carotid artery, were all that were left at the conclusion of the operation.

A small piece of diseased structure being discovered after the thorough cleansing of the wound, near the bottom of the cavity, it was removed by the handle and blade of the scalpel. As far as was possible, the handle of the scalpel was used during the operation, but for the most part the attachments were so firm as to require the cutting edge. The constant firm traction directed by Dr. Pancoast, was of much value in facilitating and in hastening the extirpation of the diseased mass.

The depth of the wound was very great, as well as its extent. It was six inches in length, exposing the greater part of the masseter muscle; a part of which being adherent to, was removed with the tumour, and a small portion of the buccinator was also laid bare. The under surface of the internal pterygoid was exposed, as well as the

entire ramus of the jaw posterior to the masseter muscle, the ligaments of the tempero-maxillary articulation were also laid bare on their outer, lower, and inner surface, and the condyle could be seen sliding forward in its socket when the mouth was opened. The finger being placed on the styloid process of the temporal bone (which was exposed its whole length), and carried downward, the contraction of the styloid muscles could be distinctly felt. A part of one of the styloid muscles, which was embraced by the tumour, was removed with it. The insertion of the sterno-cleido-mastoid into the mastoid process was also plainly shown. There was paralysis of the side of the face, and of the orbicularis oculi, induced by the division of the portio dura—this nerve having been removed with the diseased structure. The lips of the wound were approximated by suture, and pressed down into the deep cavity by a compress of lint spread with urate; another compress was laid over the entire length of the incision, and strips of adhesive plaster applied to keep the sides of the cavity in contact. The patient was a good deal exhausted at the close of the dressing, and took about an ounce of wine in some water; reaction soon came on, and she pronounced herself comfortable.

Dr. Pancoast invited me to visit the case after the operation, and upon no occasion has there been any unpleasant symptom, either constitutional or local. Her appetite has been good, she has rested well, had no fever nor local pain, nor soreness enough to induce any complaint. We examined the wound on the fifth day after the operation, and the upper and lower part, for three fourths of an inch, had united by first intention, and so favorable was its appearance, that the centre, where the first compress had been placed, was not disturbed. On the tenth day the first entire dressing was made, and on the twelfth the second. There had been no discharge of matter, except a little that hardened on the ligatures, and there was scarcely any odour from the wound. Union by first intention has been complete, closely embracing the ligatures, the integuments being sunk down in the deep fossa left by the removal of the diseased gland.

Since the fifth day from the operation, the patient has dressed and sat up daily.

[Although removal of the parotid has been deemed unjustifiable, and, as above illustrated, is a difficult and dangerous operation, still it has been frequently performed with success. Mr. South states that he has performed *eight extirpations* without any untoward accident, and refers to cases related by Schmidt, Beclard, Chelius, Kirby, and others.]

ART. 69.—*Turpentine as a Remedy in the Hemorrhagic Diathesis.* By J. P. VINCENT, Esq.

(*Observations on some of the Parts of Surgical Practice*, 1847; p. 216.)

Some years ago a youth was brought to Mr. Vincent, who was passing blood in his urine. He ordered some draughts, with a few drops of the oil of turpentine. The bleeding quite stopped before the end of the second day, and did not return. About a twelvemonth afterwards he was brought again, having cut his finger slightly; it had

continued bleeding for some days. He gave him turpentine again; it stopped in a day or two. Not long after he came a third time; he had a tooth extracted, and it had been bleeding for several days. The turpentine was had recourse to, and the remedy soon acted in the same sanatory way. Mr. Vincent has several times been called in on account of hemorrhage when teeth have been extracted, and has never seen the turpentine fail in this, nor in other similar cases of hemorrhage. Not only is the administration of this medicine by the mouth so efficacious, but the local application is also powerful in stopping bleeding; and happily so, as it anticipates the time the other method requires for effecting the purpose. At all events, it is a powerful auxiliary. The use of it is to be made with the injunction that no coagulum should be allowed to remain upon the part. Mr. Vincent says he was on the point one day of leaving London for a few hours, when he was called upon to a case of bleeding from the socket from which a tooth had been extracted, and that in considerable quantity, the subject being a weakly, middle-aged female. His confidence was such in the power of this means, that he left instructions to clear away the coagulum, if any, and apply turpentine to the part, and he ordered draughts of it to be taken, and went away without waiting to see the effect. He learned afterwards that the bleeding had soon stopped, and the medicine, internally, was not wanted.

Art. 70.—*Case of Popliteal Aneurism cured by Compression in four days.* By Mr. Cusack.—The following is one of the most encouraging cases which has yet been recorded. A man of 30 years of age, of stout make, but not very healthy aspect, was admitted into Steeven's Hospital on the 14th May last, under the care of Mr. Cusack. An aneurism existed on the right ham, about three inches in length, and its breadth limited on each side by the hamstring tendons. The disease had originally been perceived two months previously, at which time, while walking, he suddenly felt "something give way" in the situation of the right popliteal artery; and on examination a pulsating tumour was found to exist, of the size of a pigeon's egg. On his admission into the hospital he complained of little more than an uneasy stiffness about the knee. The collateral branches around the knee-joint were very large, particularly one which crossed the internal condyle, fully equal in size to the radial artery.

After a few days' rest in the horizontal posture, during which time the patient took ten drops of tincture of digitalis thrice a day, pressure was made by a suitable instrument on the femoral artery as it passed over the pubes. A degree of pressure was exercised sufficient only to diminish, without entirely interrupting, the current of blood through the vessel. When the pressure became painful, the compressing pad shifted an inch and a half lower down on the artery, and by alternating the pad upon these two points, uninterrupted compression of the artery was maintained.

The compression was commenced on the 22d of April. On the 24th, the tumour had increased greatly in solidity, and the pulsation was scarcely perceptible. Compression was now augmented, so as to remove altogether pulsation from the tumour; and on the 26th, on taking off the instrument, pulsation was found to have ceased entirely.

He was kept in the hospital for a month afterwards, when he could walk very well, and flex the knee perfectly. The tumour in the ham was still to be felt, but hard, and greatly diminished in size.

Dublin Quarterly Journal of Med. Science, Aug. 1847.

ART. 71.—*Case of Exostosis of the Tibia, and Operation.* By J. SEDDOM, M.D., F.R.C.S., &c., lately one of the Surgeons to the North Staffordshire Infirmary.

(*Prov. Med. and Surg. Journal*, Feb. 10, 1847.)

In this case an agricultural labourer, aged 21, about two years and a half ago, observed what was first called a "lump" in the upper and back part of the right leg, by uneasiness in the part, which was attended with occasional numbness in the ankle. There is no very marked swelling of the part, but the muscles of the calf, on examination, seem to be stretched, and a hard tumour can be felt firmly attached to the upper and posterior part of the tibia. A pulsating blood-vessel can be traced on the outer edge of the tumour. The patient thinks the swelling may have been caused by leaping. A free incision, commencing at the lower part of the popliteal space, and within the inner hamstring, was extended about four inches downwards, on the inner edge of the gastrocnemius muscle, and parallel with it. This was continued across the muscle, and carried a little upwards, so that the cut had somewhat of a hooked appearance. By this means a flap was formed of the muscles of the calf, which was turned upwards; two bleeding vessels were tied at this stage. The tumour now became apparent, covered only by an expansion of muscular fibres. Having drawn aside the vessels and nerve, by means of a copper-hooked spatula, the muscular fibres were divided so as expose the tumour clearly. It had an extensive attachment to the tibia, and overhung its inner edge, so as to fill up the interosseal space at this part. By means of a chisel and mallet applied to its inner edge, it was partially divided; the chisel was then worked into the internal structure of the tumour, with the hand alone, and by raising the handle of the instrument. A few projecting points of bone were removed by the bone-nippers. Some lint having been applied to the bottom of the wound, the muscular flap was laid down, and a piece of lint placed over it; and this being retained by a bandage loosely applied, the patient was carried to his bed.

The operation was effected with much less difficulty than was anticipated. The tumour was as large as a middle-sized potato, had a nodulated appearance, and a flesh colour, having somewhat the resemblance of large granulations, but this appearance was only superficial; internally it had a cancellated bony structure. The diameter of its base was nearly three inches.

The patient was discharged cured.

The difficulties of the operation which presented themselves to myself and colleagues, before it was undertaken, were, first, the danger of woundding the vessels and nerve, passing from the popliteal space; secondly, it was thought possible that the tumour might extend so far upwards as to endanger the opening of the capsule of the joint; and, lastly, if the

excrescence were of a firm texture, there might be considerable difficulty in detaching it from the bone. However, as it was considered that amputation of the limb would soon be required, if the tumour continued to increase, it was decided to undertake its removal, having first apprized the patient of the difficulties and danger of the case. I had no apprehension that the disease was of a malignant character, as the patient had a healthy aspect, and his general health had always been good.—*On the Treatment of Exostosis*, vide 'Half-yearly Abstract,' Vol. V, p. 109.

ART. 72.—*On the Treatment of Chronic Inflammation of the Bladder by Injections of Nitrate of Silver.* By ROBERT L. M'DONNELL, M.D., Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland.

(Condensed from the *British American Journal of Medicine.*)

Some years ago, Mons. Lallemand, the eminent professor of Montpellier, discovered, accidentally, the great value of nitrate of silver in chronic inflammation of the bladder, and the utility of his plan was shown in a paper by Dr. O'Bryen, in the fourteenth volume of the 'Dublin Medical Journal.' But this gentleman does not appear to have had any personal experience of its employment, and, moreover, he confines his remarks to the use of the solid nitrate, the form preferred by Lallemand.

Having met with some cases of chronic cystitis that resisted general treatment, and bearing in mind the great success which attended the application of nitrate of silver in substance, in the hands of Lallemand, I determined to give the remedy a further trial in the form of solution, and the success I met with has far surpassed my most sanguine expectations; I have now no hesitation in stating, as far as pure uncomplicated chronic inflammation of the bladder is concerned, that the opprobrium has been removed from surgery, and that we do possess a method of treatment followed by a greater amount of success than usually attends remedies employed in diseases of so severe and intractable a nature, and infinitely greater than attends the use of any remedy in a disease hitherto considered by the first authorities as incurable.

In proof of this assertion, I shall adduce four cases, two of which occurred in my private practice, and the other two were witnessed in the wards of the Montreal General Hospital, by a large and intelligent class. I could adduce others, but these I bring forward sufficiently support the views I am anxious to inculcate.

CASE 1. A gentleman consulted me last February, under the following circumstances. He had suffered for some months from inflammation of the bladder, marked by frequent desire to pass water, accompanied by heat and scalding, violent straining, pain in the region of the bladder, above the pubis and in the perineum, and a constant feeling of heat and weight in the lower portion of the abdomen. These symptoms gradually increased in severity. The urine became at first bloody, and afterwards purulent, and the desire to void it became so urgent that it had to be yielded to at least every fifteen

minutes; the discharge of the fluid being followed by pain and scalding at the neck of the bladder, and along the course of the urethra. His general health became impaired, and his sleep so frequently disturbed, a haggard and anxious expression of countenance, and extreme irritability of the system, were soon established.

When he first consulted me, fully one half of the fluid passed from the bladder was pure pus; and after repose, a deposit of blood-globules were found to intervene between this and the supernatant urine—the latter being highly alkaline, fetid, and albuminous. Examined microscopically, it exhibited some scales of nucleated epithelium, a large deposit of triple phosphate in prismatic crystals, pus, and blood-globules. There was no pain in the loins or along the ureters. He had a stricture of long standing, about one inch from the orifice of the urethra. In addition to the above characters, the urine was frequently mixed with tenacious masses of lymph, varying in length from half an inch to an inch, and entangling a quantity of earthy matter, very frequently obstructed the passage of the urine through the stricture, and required to be broken up and squeezed through by the pressure of the patient's fingers.

Having dilated the stricture, so as to allow a large-sized catheter (No. 11, Weiss) to pass, on the 17th of February I injected into the bladder a lotion composed of eight grains of lunar caustic, two drachms of tincture of hyoscyamus, and four ounces of distilled water.

The injection caused hardly any inconvenience, except that of inducing a strong desire to empty the bladder, which was prevented by compressing the penis, until the fluid had been in the bladder for about one minute, when it was allowed to escape. The next day the patient stated that he was somewhat better, but the quantity of pus and blood was not, however, much diminished, and the flakes of lymph were more numerous and larger than before. Although he continued improving, yet, as the amendment was not as rapid as I anticipated, injection of the viscus was again resorted to on the 5th of March. On this occasion, the quantity of caustic was increased to sixteen grains in the four ounces of distilled water, and the hyoscyamus was omitted. A decided improvement immediately followed; the frequency of making water was greatly diminished; instead of requiring to be voided every fifteen minutes, the bladder could retain its contents for more than two hours at a time, and the quantity of pus had greatly decreased. An injection, of the same strength, was again employed on the 28th of March, and with happy results. The urine could now be retained for three or four hours, was passed without pain or scalding, was clear and transparent, and, to the naked eye, free from pus; but when examined microscopically, a deposit of pus-globules and some epithelial scales were perceptible. On the 18th of April, I repeated the injection, and since then he has been completely free from any symptoms of his troublesome disease; he had resumed his former mode of life and pursuits, and has been subject to various changes of temperature whilst travelling, without experiencing the least return of his former symptoms.

Case 2. In this case, I commenced at once with an injection of sixteen grains of nitrate of silver in four ounces of distilled water. The

immediate effects were, the disappearance of the pain, which had been constantly present for three years; the urine was passed without any heat, scalding, or uneasiness; and the necessity for emptying the bladder became less frequent; the quantity of pus was much diminished, and no more blood was observed in the deposit, and his nights were passed in ease and comfort.

About a fortnight after, the bladder was again injected, with the same quantity of the solution of nitrate of silver, and the improvement which followed was equally remarkable. The urine can now, August 27, be retained for nearly the usual length of time; it contains barely a trace of pus, and is voided without the slightest pain. His nights are spent in comfort, his strength has greatly increased, and he has gained flesh. Finding himself so much improved, he has gone to the country for change of air, to expedite his cure. Even should some of the symptoms return, owing to the suspension of the treatment, I have no doubt they will quickly disappear after a third injection of the caustic is had recourse to.

Case 3. A man, æt. 26, labourer, was admitted into the Montreal General Hospital, labouring under paralysis of the lower extremities, the result of a severe injury. In addition, it was discovered that he had lost the power of emptying the bladder, and that the urine was mixed with a quantity of tenacious fetid mucus and pus.

He remained in hospital for some time before he came under my care, and then the following was the condition in which I found him: —Loss of motion and sensation of both lower extremities; inability to empty the bladder completely, but yet not requiring the catheter; the urine was constantly dribbling away, when he assumed the erect posture, was highly offensive, mixed with a large quantity of pus, mucus and blood, and crystals of triple phosphate. It is unnecessary to detail the particulars of the treatment employed for the restoration of the power and sensation of the limbs. Suffice it to say, that after some time the sensation was completely restored, and he had acquired sufficient power over the limbs to enable him to walk about the wards, but no improvement was observed in the character of the urine. The notes taken by one of my pupils state, that "the urine was half pus, and caused great pain and scalding in passing."

Jan. 3. He was ordered the following mixture: ℞ Infus. Buchu ℥vss; tinct. buchu ℥j; bals. copaibæ, liquor potassæ, tinct. hyosciam. āā ℥ss—one ounce three times a day.

Jan. 7. The quantity of pus had diminished to about one third, and he was directed to continue the use of the medicine.

Jan. 21. As the quantity of pus had not perceptibly decreased since last report, I determined to employ injections of nitrate of silver, and as the disease had received a notable check from the internal remedy, I did not consider it necessary to use a stronger solution than one grain to the ounce.

Jan. 22. The urine was much clearer, and the deposit of pus was less by one half than previous to the injection, and he could retain the urine for two hours.

Jan. 28. The bladder was again injected, and next day no deposit was exhibited, and the urine was almost as clear as natural.

This man, soon after the last report was taken, was attacked with maculated typhus, and passed through the disease without suffering the slightest inconvenience from the affection of the bladder; and throughout, the urine exhibited a healthy character, even when examined microscopically.

CASE 4. A strong, healthy man, æt. 30, who had been under the care of my colleague, Dr. Hall, in the Montreal General Hospital, for gonorrhœa, and was discharged cured of the complaint, came to me about a month after his dismissal from hospital, complaining of frequent desire to make water, and of pain and difficulty in doing so. As there was no discharge whatever from the urethra, I thought it advisable to pass a catheter, and not meeting with any obstruction, I collected the urine drawn off by it, and examined it at the moment. It was slightly acid, spec. grav. 1024, at temp. 72° Fahr., coagulated on addition of nitric acid, and yielded an abundant exhibition of pus-globules on examination with the microscope. Having no symptoms referable to disease of the kidneys, I treated him for cystitis, and with decided benefit at first, but as he had not a comfortable residence, and was obliged to walk a great distance to my house, in the late hot weather, I recommended him to enter the General Hospital under my care. Here I had frequent opportunities of directing the attention of the students to his case. The urine being again examined, exhibited not only a deposit of pus-globules, but also of blood-globules. Notwithstanding this unfavorable complication, he was discharged about five weeks after admission perfectly cured.

In this case I injected nitrate of silver solution into the bladder; the quantity of pus immediately diminished, and after the third injection completely disappeared. The microscope was of the greatest aid to me in every stage of this interesting case.

I introduce this case for the purpose of showing that the injection of a solution of nitrate of silver into the bladder is not only of use in cases which could have been cured by other means, but that it is eminently successful in those instances which have resisted the most valuable general remedies.

Remarks on the Operation.—The patient being placed either in the erect position or on a sofa, a gum-elastic catheter, about the size of No. 9 or 10 (Weiss), is introduced, and water at the temperature of 21° F. is injected through this into the bladder, by means of a caoutchouc bag, or what I prefer, a syringe, with a "three-way valve," by which the fluid can be drawn back if necessary. After the bladder has been completely cleansed of any fetid urine and mucus which may be contained in it, the solution of the caustic, being heated in the same degree, is to be introduced in a similar manner, and allowed to remain there for about one minute, care being taken, by compressing the urethra, to prevent its being forcibly ejected by the violent straining that is certain to be induced, The quantity of water or solution should never exceed four ounces, for though the bladder in its healthy state is capable of containing a pint and a half of urine, without being over-distended, yet as the quantity it is capable of retaining in severe chronic inflammation seldom exceeds a few tablespoonfuls, the bladder accommodates itself to its diminished contents, and gradually becomes

smaller, and consequently a large injection would act injuriously in two ways—by over-distending the organ, or by passing up into the ureters. In fact, we find it unnecessary to use a larger quantity of the solution than I have mentioned, for it requires some address to introduce even that amount without resorting to force. The patient is then ordered a warm bath; and should the urine become bloody or mixed with shreddy concretions, he should use frequent fomentations and anodynes. But these symptoms seldom last for more than a few hours, and our patient should always be informed that such consequences are likely to be the immediate effects of the operation.

My patients have not suffered from retention of urine, which it appears frequently follows the use of the solid nitrate in the practice of Lallemand: nor have they had any inconvenience which was not readily allayed by an opiate.

The advantages which I consider the solution of nitrate of silver possesses over that substance in a solid form are, first, that we can employ it of various strengths, from one to four grains, or even stronger, if necessary. Secondly, we are certain that the application comes in contact with the entire diseased surface. Thirdly, we are also satisfied that it does not act more violently on one part than on another. Fourthly, it is more readily employed by an inexperienced operator; and, above all, it cannot possibly be attended with any risk, from the apprehension of which it is not easy to divest the mind, when using the *porte caustique* of Lallemand; and, together with the above advantages, it has this also to recommend it, that it will be found at least equally successful.

Art. 73.—*Injection of Solution of Sulphate of Iron for the Cure of Prolapse of the Intestine.* By J. P. Vincent, Esq.

(*Observations on some of the Parts of Surgical Practice*, 1847; p. 173.)]

[After mentioning that, with few exceptions, the author adopts the operation of excising internal piles in preference to the ligature, and that by the use of a solution of sulphate of iron, a grain to an ounce, he has never been troubled with any serious amount of bleeding, he proceeds to state:]

Of late I have found such great advantage in employing sulphate of iron in prolapsed bowel, that the operation may very often be dispensed with, and the patient quite cured, merely with the use of this remedy. Very lately I had in the hospital two cases of the worst sort; the one of twenty years' standing, with a great protrusion and abundance of bleeding piles, who, in about three weeks, left without any protrusion or bleeding, declaring himself to be in a state of comfort that he had not known for so long a time. The other came from one of the institutions that offer great pretensions in the treatment of this class of cases. It was very bad, having both internal and external piles, and the bowel descending largely and most readily. He was completely relieved in about a month. Other cases of a slighter kind have been set to rights in not much more than a week. The patient should be kept in bed, of course, so that there should be every facility for repose of

the bowel; and after it is cleansed out, a small quantity of the injection should be daily thrown up and retained. If the stomach can take balsams, they seem well adapted for the treatment of this disease.

Art. 74.—*The Treatment of Wounds in the Chest.* By G. J. Guthrie, Esq., F.R.S.

(*Lectures on some of the more important points in Surgery. Medical Times*, April 8, 1848.)

In order to be explicit on points so important as those of which I have treated, I have thought it right to lay down certain general conclusions, subject to general deviations:—

1. All incised or penetrating wounds of the chest should be closed, as quickly as possible, by a continuous suture through the skin only, and a compress supported by adhesive plasters, the patient being afterwards placed on the wounded side.

2. If blood flows freely from a small opening, the wound should be enlarged, so as to show whether it does or does not flow from within the cavity. If it evidently proceed from a vessel external to the cavity, that vessel must be secured by torsion or by ligature.

3. If blood flow from within the chest, in a manner likely to endanger life, the wound should be instantly closed; but as the loss of a reasonable quantity of blood in such cases, say from two to three pounds, will be beneficial rather than otherwise, this clósure may be delayed until syncope takes place, or till a further loss of blood appears unadvisable.

4. If the wound in the chest have ceased to bleed, although a quantity of blood is manifestly effused into the cavity of the pleura, the wound may be left open, although covered, for a few hours, if the effused or extravasated blood should seem likely to be evacuated from it, when aided by position; but as soon as this evacuation appears to have been effected, or cannot be accomplished, the wound should be closed. It must be borne in mind that the extravasation which does take place is usually less than is generally supposed—a point which auscultation and percussion will hereafter, in all probability, disclose.

5. If auscultation and percussion should indicate that the cavity of the pleura is full of blood, and the oppression of breathing and the distress are so great as to place the life of the patient in immediate danger, the wound, although recent, should be reopened.

6. As soon as the presence of even a serous fluid in the chest is ascertained to be in sufficient quantity to compress the lung against the spine, and time has been allowed for the closure of the vessel from which blood originally flowed, a counter-opening should be made in the place of election for its evacuation by the trocar and canula, which may be afterwards enlarged, unless the reopening of the wound should be thought preferable, which will not be the case unless it should be low in the chest.

ART. 75.—*Restoration of the Alæ Nasi.* By M. BONNET.

(*Translated for the Prov. Med. and Surg. Journal*, Oct. 20, 1847.)

The alæ nasi are composed of skin, mucous membrane, and intermediate fibro-cartilage. In order, therefore, to restore a deficiency in these parts, the portion of flesh which is transplanted should consist of the three tissues mentioned.

None of the methods at present in use fulfil these conditions. If the portion to be substituted be taken from the skin of the cheek, the new ala nasi is composed solely of integument, and is, moreover, extremely prone to gangrene, leaving an indelible cicatrix on the spot whence it has been taken. These disadvantages are all done away with if the surgeon makes use of the flap taken from the entire thickness of the upper lip; for in the first place he restores the lost part by a portion of similar construction, the skin of the nose is replaced by that of a neighbouring part, the mucous membrane of the interior of the nose is represented by that of the interior of the lip, and the muscular structure of the organ becomes a substitute for the fibro-cartilage of the nostril. Secondly, the flap of skin which is twisted round through the fourth part of a circle, being supplied by numerous vessels, is but little liable to sphacelate, but on the contrary unites readily; and, thirdly, the wound on the lip gives rise to a linear cicatrix, as it is sure to heal by the first intention, if the edges are properly adjusted. The success of this method is well exhibited in the subjoined case:

Complete destruction of the left ala nasi: restoration by means of a portion of the upper lip.—Claude Poyet, aged 57, had the left ala nasi entirely destroyed by lupus. The ulcer had been cured for upwards of six months, leaving a large excavation, which disclosed the interior of the nares. It occurred to me that this was a favorable opportunity for testing the above operation, and I accordingly performed it as follows:

After denuding the cicatrized edges of the deformed nostril, I cut through the entire thickness of the upper lip on the same side, by two incisions. The first of these commenced at the posterior angle of the ulceration, and inclined slightly towards the centre of the lip; the other, beginning half an inch farther back, ended at the commissure of the mouth. The space included between the incisions was exactly equal to the length of the anterior border of the ulcer. The flap was then separated from the superior maxilla for about a third of an inch in height, and the two edges of the divided lip were brought together by three pins; the flap itself, being twisted round its anterior edge, was placed in apposition with the posterior border of the ulcer, its inferior edge to the anterior border, and its posterior edge was left to form the free edge of the nostril. The parts were kept in apposition by five sutures.

The advantages of this mode of operating were immediately visible. The cicatrix on the lip was perfectly linear, as in the operation for hare-lip, the flap filled up the gap in the nostril with the greatest exactitude, and the projection formed by the twist given it in some measure resembled the natural state of the parts. The case was seen by several surgeons, and its results were considered in the highest

degree satisfactory. The only drawback was the necessity of shaving the new nostril, upon which the beard grew as usual.

In order to exhibit the advantages of the above method of operating, I will now briefly pass in review the different processes for restoring the alæ nasi which have generally been adopted.

When the integument covering the bones of the nose is not implicated, and the destruction is entirely confined to the cartilage of the nostril, it is evident that the restoration must be made from the neighbouring integuments, and not from the forehead. In doing this, two methods may be followed: that by traction, or the French method; or the Indian, or the method by torsion. The French plan may be adopted under two modifications. The flap of integument which is detached on three sides may be left adherent by its outer or by its upper border. By the first method, if the loss of substance has been as great as in the present instance, it is doubtful whether the flap could be drawn sufficiently forwards to enable its internal border to be neatly adapted to the skin which remains upon the dorsum of the nose; and even if by minute dissection this adaptation be effected, the appearance will be anything but graceful, as the side of the nose thus restored will have a straight direction from the cheek to the bridge of the organ, instead of assuming the natural sinuosities of that feature.

If the flap from the cheek be left adherent at its superior border, as is advised by M. Serreo, the operation will doubtless be more easily accomplished; but it is to be feared that the flap, which is supplied by capillary vessels only, will be inclined to sphacelate; and in addition to this the wound, which is necessarily made to obtain the flap, will offer a most unsightly cicatrix.

M. Labat proposes to restore the ala nasi by a flap taken from the cheek, and twisted upon itself; a proceeding which we do not consider as offering any prospect of success. If the muscles of the face are included in the flap, the movements of the face are in part destroyed, and the facial artery and vein are wounded; and on the other hand, if the skin alone is used, there is the fear that it will sphacelate, at least at its borders, and thus destroy the form of the nostril.

In reference to the plan which I have above advocated, there are but two trifling objections, viz. the growth of hair upon the nostril, and the great thickness of the flap. The latter is more apparent than real, and the former inconvenience is readily obviated by the razor, or the use of depilatories.

Art. 76.—*The Treatment of Dislocation of the Patella on its edge.* By J. P. Vincent.

(Liber citatus, p. 173)

When the patella rests in its trochlea, but is turned on its edge, the inner edge is applied to the femur, the outer, of course, standing out at right angles to it; the upper surface faces the other knee, and the articular surface looks outwards. It might, on first consideration, be supposed that a replacement could be readily effected; but, practi-

cally, it is a very formidable undertaking, if the surgeon has not entered into those views I now offer to the profession, in connexion with the association under which muscles act. Some years ago, I was called suddenly by a surgeon to assist in reducing a dislocation of this sort, for effecting which, the medical man had resorted to all the various expedients he could contrive for effecting the purpose. I found the patient to be a gentleman who some years before had, in the common way, dislocated the patella whilst shooting; and that he had subsequently had the same accident often occur; but now it had become the dislocation of the above kind. The surgeon had exhausted his ingenuity: however, we resumed the series of contrivances with all the powers we could exert of lateral pressure on the bone in all directions, but nothing availed; and it seemed to me as firmly fixed in position as if three or four long screws had been driven through its thickness, and bound it most closely to the femur. All this time we were acting in the falsely received notion of relaxing muscles by merely keeping their attachments as much as possible approximated to each other, and the leg was most carefully extended on the thigh.

After a long course of trials in this way, it occurred to me, that I might effect some change by giving the bones a sort of shake; for this purpose I slightly bent the leg, and gave a little rotatory motion to the tibia, when the patella quietly returned to its proper situation, as if a charm had released it from its fixed state. The hand of an infant might now have deposited it in its trochlea. The result of the manipulation in this case, led to reflections which opened to my view principles very different from those I had formerly held. It offered a forcible example, that any muscle disturbed in its arrangement, is under great excitement to act. The disturbed arrangement here was the elevation of the centre of action of the extensors above the ordinary position; and as these muscles, in the straight position of the whole limb, are called upon to support a great proportion of the weight of the body, so when in that position they are naturally impelled to exert a vast force. But in obedience to the associated action of combined muscles, when the leg is bent, and another order of motions in this complicated joint is brought into play, then these extensor muscles immediately relax; they would otherwise, by their action, prevent the rotatory motion of the leg upon its axis Thus the moment the leg was bent, the extensors returned into a comparative state of repose, and left the patella quietly to resume its appointed position. Not very long after the occurrence of the above case, I was called one night to the hospital to a similar one. The house-surgeon had adopted all the means of ingenuity and of force, but had not succeeded in reducing it. I bent the leg, and, rotating it in the axis of the tibia, the patella quietly returned, and thus was accomplished the reduction.

[An article on this variety of dislocation will be found at page 103 of our last Volume.—H. A.]

SECT. IV.—RARE SURGICAL CASES.

ART. 77.—*Fatal Hemorrhage from the Subclavian Artery in a case of Abscess of the Neck.* By WILLIAM JACKSON, Esq., F.R.C.S., Sheffield.

(Condensed from the *Prov. Med. and Surg. Jour.* July 14, 1847.)

July 16th, 1830, I was requested to visit J. W., æt. 19, whose general appearance presented the characteristic features of scrofula. He had suffered for several months from an extensive swelling of the right side of the neck. His health had suffered considerably by the discharge from two or three openings, which had been established more than a month. I was summoned by an urgent message in the night of the 16th, and found him in a state of syncope, from loss of blood from two or three apertures on the side of the neck. The hemorrhage had ceased, the opening being occupied by coagula of blood. The largest aperture was seated about two inches above the clavicle, and somewhat nearer the sternum than the scapular extremity of the bone. The other apertures were seated more outwardly. The attendants represented the bleeding to have been very sudden and copious, the almost immediate effect of which was complete syncope, and a cessation of the flow of blood. I remained till the patient recovered his consciousness, expecting, of course, a renewal of the hemorrhage; but as he still remained in a languid state, with an almost imperceptible pulse, no immediate measures were adopted for his relief. From the appearance presented by the blood, as stated by the persons present, and from the rapidity of the stream, there could be no doubt but a vessel of considerable magnitude had given rise to the bleeding. The situation of the disease was carefully explored, and there was just reason to infer that the abscess originated from some deep-seated part, most probably from the bodies of the cervical vertebræ. The question presented itself,—from what vessel did the bleeding arise? It might be from the subclavian or the vertebral artery, or the internal jugular vein; for a vessel of inferior magnitude would not pour out blood so rapidly as to sink the powers in so short a time. The pulse became gradually restored, and consciousness returned. The application of cold, rest, and cooling drinks were enjoined.

On the 17th, the circulation had become moderately re-established, and there had been no return of the hemorrhage.

On the 20th, there was a sudden return of the hemorrhage, which, as before, had quite subsided. On my arrival, I found the poor young man deluged with blood, and in a state of insensibility.

The cause was one evidently of unusual occurrence, for all concurred that one of the great vessels in the neighbourhood of the abscess was the source of the hemorrhage. It was generally considered by the gentlemen engaged in consultation, that the hemorrhage proceeded from a part inaccessible to surgery, and that in all probability extensive disease existed, besides the ulcerated artery giving out the blood. Under these circumstances, therefore, no operative means were advised. After the recurrence of hemorrhage on the 22d and 24th, our patient sunk.

Post mortem.—The blood-vessels were injected, and it was found that ulceration had occurred in the subclavian artery, as it lies upon the first rib. The rib was in a carious state, as well as the bodies of the contiguous vertebræ. The situation of the ulcerated opening in the artery was towards the bone, and occupied about one fourth of the calibre of the vessel; the opening was of a somewhat oval shape, and well defined. There was no enlargement of the capacity of the vessel at the part.

ART. 78.—*Ligature of the Vertebral Artery.* By Professor CHELIUS.

(Condensed from his *System of Surgery*, vol. ii, p. 249.)

Dietrich has proposed two methods, according as the artery is to be looked for between the *atlas* and *dentata*, or between the *atlas* and *occipital bone.*

I. The head of the patient being inclined to the opposite side, and a little forwards, a cut is to be made two fingers' breadth from the lobe of the ear, or one finger behind the mastoid process, beginning half an inch above the latter, and carried for two inches along the outer hinder edge of the sterno-mastoid muscle. From the upper fourth of this cut a second is to be carried an inch backwards and obliquely downwards. After dividing the skin and some cellular tissue in both cuts, in the first is seen the outer and hinder edge of the *sterno-mastoid*, and in the second the *splenius* covered with aponeurosis. The wound is now to be deepened through the aponeurotic and cellular tissue, and in the second cut the fibres of the *splenius* are to be divided, at which time a small artery will be wounded. A second aponeurotic layer must be divided, and under it pass some branches of arteries and nerves. An assistant, with blunt hooks, holds the edges of the wound apart, and a layer of fat appears, in which is the vertebral artery. At the same time, also, the outer edge of the *obliq. cap. infer.* is seen at the inner edge of the second wound, and is to be drawn somewhat inwards. Two branches of the occipital artery, also inclosed in cellular tissue, pass across the wound. The cellular tissue is now to be divided with the handle of the knife, and the arterial branches drawn upwards or downwards. Two branches of the second cervical nerve show themselves, and are to be drawn up or down; after which the isolation of the artery is no longer prevented. The needle is to be carried round the artery from without inwards, to avoid the internal carotid, which is only separated from the vertebral by cellular membrane.

II. The cuts should be made as in the former case; but the first is to be begun a quarter of an inch above the mastoid process, by which the second cut runs somewhat more upwards. After cutting through the skin *fascia* and *m. splenius*, the occipital artery appears in the upper angle of the first wound, as also at the front edge on the upper fourth, the hind edge of the *m. obliq. cap. super.*; but in the whole surface of the wound a layer of *aponeurosis*, and under it cellular tissue, loaded with fat, the former of which must be carefully divided. The edges are to be held asunder with blunt hooks, and then a triangle appears, formed by the *m. rect. cap. post.* and *m. obliq. cap. super.* and *infer.*, filled with fat, and cellular tissue. This is then to be carefully

divided, turned back, and, if in large quantity, should be partially removed; upon which the artery appears below the *m. obliq. cap. super.*, and runs backwards nearly an inch before it perforates the occipito-atlantal ligament. The ligature is then passed obliquely from below upwards, to avoid the nerves and vein.

Art. 79.—*Remarkable Case of Emphysema of nearly the whole Body.* By M. G. Ponce.

(From the Spanish Journal, *Anales de Cerugia.*)

A man, æt. 47, for several years previously affected with chronic bronchitis, received the shock of a bar of iron, from the height of six feet, upon the dorsal region, whilst he was bent towards the ground; the pointed end struck the inferior angle of the scapula, produced a small ecchymosis, and lacerated the skin. From the moment of the injury breathing became difficult, expectoration ceased, fever commenced, violent pain was felt in the wounded part, and the patient became restless and agitated. Sinapisms and resolvents were applied; an antispasmodic drink prescribed; and at 50 ounces of blood were taken four hours after the accident; there were extreme dyspnœa and hissing respiration; icy coldness over the whole body; a considerable tumefaction was formed by the infiltration of air in the subcutaneous cellular tissue, which covered nearly the whole surface of the body. In some parts the infiltration was so great, as to enable one to thrust in the fist. The eyelids were so much swelled, that all light was excluded; the breasts resembled those of a woman of a lymphatic temperament; and the abdomen was larger than in ascites arrived at the last stage. The penis was enormous, but it was remarked that the scrotum retained its normal state. Added to these symptoms, there were complete aphonia and dysphagia. Thirty-three large incisions were made in the emphysematous regions. The air escaped by these openings with a noise which astonished the assistants; as much as possible was pressed from the tissues through the incisions. The patient immediately recovered his speech. About 38 ounces of blood were taken. At the following visit, more air was let out from the wounds, by means of pressure through the punctures. The patient still felt pain in the seat of the contusion; the pulse was hard, with great thirst, and no expectoration (24 leeches). In the night the patient was calmer, and expectorated abundantly. The following day, general perspirations occurred; there was less pain and more fever. The cure was completed by the eleventh day.

The editor of the 'Encyclographie' remarks, "the case is very interesting, but the interest is augmented by the obscurity with regard to the origin of the emphysema. It is doubtful whether the emphysema was produced by the ecchymosis and laceration of the skin. This is the author's decision, but is, however, without proof or certainty. On the other hand, there is nothing to show that the origin of the emphysema was not the rupture of some pulmonary vesicles, or perhaps a fracture of the ribs, the ordinary cause of emphysema, but the absence or existence of which, in this case, is not mentioned. The uncertainty can be easily understood, as an emphysema of this nature, and to such an extent, produced by a cutaneous lesion of so little importance, is a very rare occurrence.

Art. 80.—*Case of Mortification of the Lower Extremity from Spontaneous Obliteration of its Arteries in a young subject—Amputation twice—Ossific Transformation of the Femoral Artery—Recovery.* By Alexander Fiddes, late Surgeon to the Kingston Dispensary, Jamaica.

(*Monthly Journ. of Med. Sciences*, March 1848.)

Alexis Sequeira, æt. 23, came first under my care two years ago, complaining of his left foot. It was painful, had a livid colour, and felt colder than its fellow. The small toe was black, dry, and insensible. Over the course of the tendo achilles there was the cicatrix of an ulcer, which had proved very difficult to heal; and partly from this, partly from a contracted state of the muscles of the calf, there was a permanent elevation of the heel, so that, in walking, he touched the ground only with the anterior part of the sole. Under the use of poultices, the mortified toe separated, the wound cicatrized, and by rest and other sedative measures, he felt altogether so much better, that I took my leave, and saw nothing more of him till the middle of August 1847, when I was a second time requested to see him. He then informed me that, though the limb had always felt more or less stiff and painful since my former attendance, yet it had not prevented his walking abroad until lately, when a black spot made its appearance where the toe had been, and the pain, at the same time, became so aggravated, and the whole limb so stiff and contracted, that he was obliged to keep his bed. The foot felt cold and clammy, and was purple-coloured. The cicatrix above the heel had ulcerated, and all the muscles of the limb were rigid and painful on being pressed. On examining the course of the arteries with the fingers and stethoscope, no pulsation could be detected in that side from the foot up to the aorta's bifurcation. There was nothing morbid in the heart's action, or in the circulation of the opposite limb. During my subsequent attendance, extending to a period of two months, matters became daily worse. The temperature of the foot and lower part of the leg was always below the standard heat of the body. The muscular contraction increased until the leg was bent at a right angle with the thigh, and the thigh drawn up upon the pelvis. Gangrene seized all the toes in succession, and spread progressively along the foot. The ulcer above the heel showed a proneness to slough. The pain became almost insupportable, prevented sleep, and was hardly allayed even by liberal doses of opium. The mouth became covered with aphthous ulceration, and hectic irritation set in. On the 19th of October, the gangrene had extended close to the ankle-joint, without showing any attempt at a line of demarcation, and his powers had become so depressed, as to make it obvious that he would soon sink, unless relieved of the cause of irritation.

Impelled by the urgency of his condition, but without sanguine expectations of ultimate success, I amputated the limb that day, close under the knee, with the concurrence and assistance of Dr. Charles Campbell and Dr. James Scott. The skin, fascia, and muscles constituting the flaps looked sound, but there was no bleeding, beyond

slight oozing, nor could any artery be recognised on the cut surfaces. The integuments were stitched together, and a roller loosely applied. On dissecting the removed limb, the arteries were found to have lost all trace of their tubular formation, having degenerated into tough, yellow-coloured ligamentous bands. The veins were unobstructed, but diminished in calibre, thickened in their coats, and morbidly adherent to the surrounding parts. They consequently did not collapse when cut across, but remained open like an artery.

October 21. On removing the dressings this morning, the whole anterior flap was gangrenous; some febrile disturbance; stitches removed; hot-water dressings.

November 10. All the mortified parts have separated, exposing the tibia and fibula, denuded of periosteum. There has been no sloughing in the posterior flap, which is now granulating. Sleeps and eats well. General health greatly better. Muscles of the thigh have lost their spasmodic rigidity, and are not painful on being pressed. There is consequently greater freedom in the movements of the hip.

December 11. Progressive improvement in general health. The exposed condition of the bones rendering the stump unfit for any useful purpose. I amputated this day in the middle of the thigh, by antero-posterior flaps. The cut surfaces oozed freely, and two arteries required to be tied; one was a muscular twig; the other, a considerable branch, ran in the centre of the great sciatic nerve, and required to be carefully pulled out, to keep the nerve clear of the knot.

December 14. Stump dressed; no uneasiness or discharge; seems well united.

December 16. Stitches removed; perfect adhesion of the integuments, except a small aperture through which the ligatures hung; adhesive straps applied.

January 5, 1848. He called at my house this morning, walking well with his wooden leg. Being in excellent health, he is anxious to resume his avocation. The stump shows no sign of imperfect circulation. When the amputated portion of limb was dissected, the femoral artery, as low as the knee, was found to have undergone an osseous transformation; but, unlike the calcareous degeneration of the aged, it consisted of a chain, or series of pieces of bone, white, spiculated, and compact, having physical properties similar, in all appearance, to natural osseous tissue. These were deposited in and linked together by a yellow fibrous substance, similar to that which occupied the room of the arteries below the knee. This was evidently the matrix in which they were generated and developed. Some of these ossific bodies are an inch long, and nearly half an inch broad. They resemble the long deposits sometimes found in the *falx major* and other processes of the *dura mater*. The femoral vein presented similar appearances to the veins described above.

Remarks.—The transformation of the femoral artery observed in the present case, may be considered, I think, as a disease *sui generis;* for it does not appear analogous to the senile degeneration, but distinct from it in structure and mode of growth. Though lower in the scale of organization than the tissue which it has supplanted, it is, nevertheless, capable of carrying on its own nutrition; and it seems probable,

if a collateral circulation could be established in cases of this kind, that the arterial trunk thus transformed would remain throughout life without causing disturbance, or falling under the operation of that law by which foreign and injurious substances are expelled from the body. On the other hand, the calcareous degeneration of the old man has no title to the rank of a vascular organized structure, being merely a deposit of earthy matter between the tunics of the artery, retained mechanically as an incrustation, and which, sooner or later, operates destructively, as a foreign body, upon the vessel. Both these morbid alterations have, of course, an obstructive effect on the circulation, and produce a liability to chronic gangrene—in the one, the arterial canal must always be obliterated; in the other, the vessel, though inelastic, may be still pervious, and capable of transmitting the stream of blood. In old persons the calcareous degeneration takes place without any apparent inflammatory action, as a natural consequence of age, or from a pathological state of the fluids, similar to that which produces the gouty and urinary deposits, as has been ingeniously supposed by Andral; but the ossiform transformation appears to be the result of an antecedent arteritis. The first step in the morbid process towards its formation being occlusion of the arterial canal by coagulable lymph, conversion into a dense fibrous structure, then, by a continuance of the inflammatory action, ossification; for it has been fully ascertained by observation of disease, and by experiments, that chronic inflammation in fibrous tissue induces its ossification. This hypothesis of the osseous transformation, then, has the support of analogy, although, as Andral observes, we perhaps express as much as we know of the origin of accidental osseous formations, when we say that they are produced by a perversion of nutrition. Although amputation was performed in opposition to the established principle, which forbids such a procedure in idiopathic mortification, so long as there is no line of separation between the dead and living parts, yet I am convinced that this young man's life was saved by the departure from that rule of surgery.

It would probably have been more judicious to have amputated in the first instance above the knee, as the flaps there, from their thick and extensive attachments, and proximity to the centre of circulation, would have had a better arterial supply than the flaps below the knee had in the first operation. This is made probable by the fact, that while the thin integumentary flaps on the anterior surface of the leg perished, the thick and muscular one taken from the calf retained its vitality completely. The iliac trunk being obstructed, the circulation must be carried on chiefly through anastomoses between the lumbar arteries and ramifications of the gluteal and ischiatic, that had escaped obliteration.

[Interesting articles on the subject of dry gangrene, senile gangrene, &c., will be found in the 'Half-Yearly Abstract,' Vol. III, pp. 83, 90, and 209; and Vol. V, p. 97, by Dr. Binaghi, Professor Tiedemann, and Mr. H. Fuller. The reader is also referred to Mr. Solly's remarkable case in the 'Med. Chir. Trans.,' vols. xxii and xxiii. In this case a morbid state of the blood was the most probable cause of a universal gangrene of the limbs.—H. A.]

ART. 81.—*Abscess of the Tongue ending fatally from Hemorrhage.* Related by Mr. WARD.

(*London Medical Gazette*, Nov. 12th, 1847.)

E. T., aged 7, was born with a slight red enlargement in the centre of the tongue. No inconvenience or difficulty in the ordinary motions of the tongue, or in swallowing, had ever been experienced. The general health had always been good. In the night of Sept. 27th, 1847, having been in her usual health at bedtime, she was attacked with pain and swelling under the chin and both sides of the lower jaw, slept very little, and the following morning had pain in the tongue, with great difficulty in speaking, or swallowing anything but liquids. She had an aperient powder at night, and the lower jaw was fomented frequently. In this state she continued for two or three days, and was first visited by me on Oct. 1st, when the following appearances were noticed: face flushed, eyes very bright, countenance anxious; great swelling, redness, and extreme tenderness of the parts under the lower jaw; very slight swelling of the tongue itself, which is covered with a thick, brown fur; is unable to open the mouth wide, or move the tongue beyond the teeth, or to speak, and has great pain in the mouth; pulse very quick and sharp; great heat of skin, and thirst urgent; bowels confined Ordered eight leeches to be applied under the chin; to take, at bedtime, four grains of calomel, James's powder and sugar, of each three grains; a saline mixture, containing a scruple of nitrate of potash; one tablespoonful every three or four hours.

Oct. 2d. Slept more last night than since first attacked; fever great; pain slightly relieved; swelling and redness less; mouth nearly closed; was able to swallow the powder in jelly, but refuses the mixture, of which very little has been taken; bowels freely relieved; evacuations dark and offensive. To take calomel and James's powder, of each three grains, and jalap, five grains, at bedtime; use a chloride-of-soda gargle, warm, to the mouth, by means of a syringe. Fluids taken in the mouth return by the nose.

4th. Less fever; rests better at night; difficulty in swallowing, or speaking the same; can open the mouth sufficient to allow the tongue to be seen, which is nearly fixed, very little swollen, and still thickly coated; the breath extremely fetid; external swelling and redness still considerable, the tenderness great; pulse soft, quick, and weak; the bowels act freely; was able to pass my finger into the mouth. Under each side of the tongue distinct fluctuation can be felt. While pressing on the left side, the lining membrane gave way, and was followed by a profuse discharge of fetid pus, mixed with blood. The point of the finger passed easily to the depth of the first joint under the tongue, giving the sensation of a large pulpy cavity. The tongue not very tender, can be moved from side to side, by means of a small teaspoon, but not voluntarily. Apply strong poppy fomentation frequently, and linseed poultices. Continue the chloride-of-soda gargle under the tongue, with the syringe, and take of a mixture consisting of six grains of quinine, a teaspoonful every four hours. Give a little

port wine and water frequently, and milk, or thin arrow-root for drink.

6th. The pain less since the use of the poppy fomentation, generally sleeping for some hours after using it; the discharge of pus and saliva very copious and offensive; lies with the head on the left side, to allow the free exit of the discharge, otherwise the mouth is constantly filled; fever less, as also the swelling and tenderness; redness gone; great debility, and considerable wasting of the body already; can swallow fluid, and is eager for the wine; very little of the quinine has been taken; bowels act twice a day; can open the mouth wider, but is still unable to protrude the tongue, which is cleaner and moister; on slightly raising it by the handle of a spoon, a large jagged opening may be seen on the left and under side of the lower jaw, from which, by gentle pressure under the chin, a profuse discharge of thick pus swells up, of which I pressed out at least two ounces; pulse soft and weak. Continue the external applications; apply the chloride-of-soda gargle frequently to the mouth and under the tongue, with the syringe; take a mixture consisting of two ounces and a half of decoction of bark, syrup of orange-peel, and tincture of bark, of each two drachms, a fourth part three times a day; continue the wine, and give strong beef-tea and arrow-root frequently.

9th. Altogether improved; discharge less, but still fetid; takes fluid nourishment frequently, and the wine; the general swelling and tenderness reduced, more on the left side under the jaw than the right; and is unable to protrude the tongue further. Continue all the applications and the mixture.

11th. Has not rested so well the last two nights, and has had more pain, particularly on the right side, which is more swollen, and very tender, the left side being almost in its natural state; the discharge has been profuse, but thinner; the tongue is moist and clean, not very tender, but less moveable; the opening under the left side of the tongue smaller; fever returned; has constant hacking cough; not able to swallow so well, or to speak as to be understood.—Apply six leeches under right side of the lower jaw; continue the fomentation and poultices; also bark mixture and port wine.

12th. Has slept very little, from the frequent coughing, which tires her very much. Discharge from the mouth less, and thinner, but still fetid; emaciation extreme; has changed the position of lying to the right side; left angle of the mouth drawn down; the swelling and tenderness on the right side very much increased since yesterday; feels soft; is more prominent in the centre, and appears pointing here. The finger in the mouth can detect very distinct fluctuation under the tongue, which is thickly coated, and very tender. Takes very little nourishment; only a teaspoonful at a time; prefers wine to other things.—Continue the fomentations and poultices.

13th. Has had a bad night; is very irritable and feverish; mouth nearly closed; unable to examine the tongue; the swelliug about the same; the right cheek and under side of the jaw of a dusky red colour, and very shining, so tender that she has again changed the position, lying on the left side; cough less; pulse very small and weak; takes scarcely anything; discharge more copious, thicker, and

slightly tinged with blood; it now appears to come from the right side. In the evening, while coughing, a large gush of blood took place from the mouth, mixed with pus, and flowed freely for more than ten minutes. By applying ice internally (which I had directed to be in readiness), the hemorrhage was arrested. A cold lotion was applied externally, and an alum gargle frequently to the mouth.

14th. Has slept very little; unable to lie down, from the constant discharge of fetid pus and saliva from the mouth; the swelling of the right cheek and side of the jaw less; very tender, of a dull yellowish colour; able to open the mouth so as to examine the tongue, which does not appear enlarged; no power of moving it herself; is thickly coated with a dark fur, and when pressed upon a profuse discharge of thick pus fills the mouth immediately; no return of the hemorrhage; is very pale and faint; pulse very small and weak; has taken more nourishment since last night than for some days before, such as port wine, isinglass in milk, beef-tea, jelly, &c.—Continue the lotion and alum-gargle to the mouth with a syringe. At half-past 7 p.m., in the act of swallowing a small piece of bread and butter, profuse hemorrhage occurred from the mouth, and more than a pint of blood was lost before it was again arrested by the free application of ice; it was of a bright arterial colour. She became faint, and expired at 9 p.m.

On the following day I made a post-mortem examination of the parts affected. The parotid, sub-maxillary glands, and other parts, having been brought into view, were found (on the right side) so much softened, decomposed, and mixed with coagulated blood and pus, as to be recognised with difficulty, and it was impossible to trace from what vessel the hemorrhage had proceeded, such was the destruction of the parts. On the left side, the glands were of a greenish colour, very much softened, and bathed in pus. A probe passed readily by the side of the jaw into the mouth. I divided the trachea just above the sternum, and dissected the larynx and tongue carefully out. The morbid state of the tongue is shown in the preparation before the Society.

Art. 82.—*Elephantiasis Scroti.*—In 1837, October 3, Dr. Picton, of New Orleans, operated upon a negro of that city, excising the scrotum, which weighed 53 pounds. The testes were saved. The man is still alive, in fine health, and, as recently as five weeks ago, became the father of a child. Knowing that many gentlemen are solicitous to learn the condition of the patient, we take pleasure in presenting these facts.

Boston Med. and Surg. Journal, Aug. 1847, p. 524.

PART III.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY, AND DISEASES OF WOMEN.

ART. 83.—*On the Causes of Abortion.* By Dr. TYLER SMITH.

(*Lancet*, April 15, 1848.)

[Dr. Tyler Smith investigates the subject of abortion under the new light afforded by the important discoveries of Marshall Hall. He accordingly divides the causes into two categories, *excentric causes* and *centric*. Respecting the first class, he observes:]

1. *Excentric causes of abortion.*—Irritation of the *mammary nerves* may produce abortion, as in cases of undue lactation, complicated with a second pregnancy. Cases occur in which, during prolonged lactation, two or three conceptions and abortions follow each other, the latter being caused by the irritation of constant suckling. The question naturally suggests itself,—whether it is not the constitutional debility, rather than the local irritation, which induces abortion in these cases; and there can be no doubt that this, like many other anæmic conditions, may help to produce the accident. There is, however, over and above this, mammary irritation as a distinct cause. I have observed cases in which, owing to the synergic action between the uterus and the breasts, the secretion of milk had been almost entirely arrested by conception, the infant being chiefly supported by feeding. The child would still suck most vigorously, in its attempts to obtain milk, until the uterus was excited to the expulsion of the ovum, and after the abortion has occurred, the secretion of milk returns abundantly. Such cases are very different from those in which the breasts are dried up from debility. If the synergic relations between the mammæ and the uterus required any more obvious proof, I might refer to cases on record in which actual metritis has been caused by the application of sinapisms to the breasts in amenorrhœa. It is important to recognise mammary irritation as a cause of abortion in the early months, because it may be mistaken for a profuse menstruation; and the woman, misled by the subsequent profusion of milk, may allow of its recurrence, and so suffer constitutional injury. It is curious that irritation of the stomach, between which and the uterus there is such a distinct relation, should *not* produce abortion. After parturition, the slightest gastric irritation will excite contractions of the uterus; but during pregnancy, gastric irritation, and sickness even to death, may occur without disturbing the fœtus in utero; on the contrary, sickness seems positively favorable to the continuance of utero-gestation. The synergies between the lungs and the uterus are equally remarkable. The uterine phenomena of utero-gestation re-

tard the progress of pulmonary disease, but if the most extensive disease of the lungs exist, it does not excite abortion. An amount of pulmonary disease sufficient to cause death a few days after delivery may exist, without any interruption to the natural duration of pregnancy.

Irritation of the *trifacial nerve* will sometimes excite abortion. It happens when no other cause can be recognised but the appearance of the dentes sapientiæ, and this phase of dentition is well known to produce considerable local and constitutional disturbance. General convulsions may, in fact, be excited from this source, either in the male or female subject. The reflection of irritation from the trifacial upon the uterine nerves, in young pregnant women, is no more remarkable than the strangury excited by teething in the infant. Extraction of decayed teeth during pregnancy is another cause of abortion in which the trifacial is concerned. There is a well-known synergy between the uterine system and the teeth during pregnancy, leading to toothache and caries; and there is also a tendency to reflex action in the direction *from* the teeth *to* the uterus. These facts and their rationale require to be borne in mind in the management of pregnancy.

Irritation of the *vesical nerves* is, in rare instances, a cause of abortion, as when patients conceive who are the subjects of chronic vesical irritation, or when there is stone in the bladder. The uterus itself reflects irritation upon the bladder during pregnancy, so as to exaggerate the effects of any primary vesical irritation which may exist.

Irritation of the *ovarian nerves* is a very frequent and important cause of abortion. It is a well-recognised fact, and one upon which I had often had occasion to dwell, that the majority of cases of abortion occur at what would have been menstrual periods. In such cases it is the ovarian nisus, and the attendant irritation of the ovarian nerves, either alone or combined with other causes, which excite the uterus to expel the ovum. The ovarian excitor nerves act in such cases in just the same way as they act in bringing on natural labour at the completion of the full term of pregnancy. Almost all women can perceive the menstrual periods as they pass through utero-gestation, particularly at the first three or four periodic dates. Those who have suffered from menorrhagia or dysmenorrhœa, or in whom organic ovarian disease has existed before conception, recognise the menstrual nisus most clearly, and it is precisely in these subjects that abortion is most likely to happen. Abortion in the early months is common during the grand catamenial climacteric; it constitutes, in fact, one of the chief dangers of this epoch. In all cases of abortion, caused by irritation of the ovarian excitor nerves, the most common time for the occurrence of the accident is at the second, third, or fourth periods, but it may happen at any one of the periods. In cases where the abortion depends upon irritation of other excitor nerves, or upon erythismus of the spinal centre, the periodic ovarian irritation often determines the time of the accident.

Irritation of the *rectal nerves* is a common cause of abortion. This variety of abortion is obvious when the accident occurs from hemorrhoids, or from operations for their removal; the presence of ascarides in the rectum; the employment of irritating purgatives, particularly

aloes, in excess, or the use of irritant enemata, or from the occurrence of severe diarrhœa or dysentery during pregnancy: obstinate, and long continued constipation, or any other great irritation of the lower bowel and its excitor nerves may occasion abortion.

Irritation of the *vaginal nerves* sometimes excites abortion. Plugging the vagina is one of the means resorted to for the artificial production of premature delivery; the mechanical irritation of coitus will sometimes produce abortion, and this cause must be divided between the os uteri and the vagina. In cases of threatened abortion with hemorrhage, the danger of the accident is sometimes increased by the plugging of the vagina resorted to in order to arrest the loss of blood. This fact should always be borne in mind when the plug is resorted to in hemorrhage of any kind occurring during utero-gestation. It is possible that in arresting the hemorrhage we may ourselves cause abortion.

Irritation of *uterine nerves* is, beyond doubt, the most important of all the causes of abortion. Abortion may occur without any other apparent disorder of the ovum or the uterus, except an absence in the uterus of the proper disposition to growth or development. The uterus will grow to a certain size, and then an arrest of development appears to take place, which ends in the expulsion of the ovum. In other cases the fœtus dies, and becomes a foreign body, directly irritating the uterus to throw off its contents. This cause of labour involves the whole subject of intra-uterine pathology, and of all the disordered condition of the fœtus, membranes, and placenta. The separation of the membranes from the walls of the uterus, and the effusion of blood, or disease of the placenta, are important causes of abortion. Puncturing the membranes, and bringing the fœtus in direct contact with the parietes of the uterus by the evacuation of the liquor amnii, will excite abortion in the same manner. In the abortion excited by violent horse or carriage exercise, the accident depends on the mechanical irritation of the os and cervix by the fœtal head, in consequence of the succussion. In principle, the abortion caused by equestrian or carriage exercise is precisely the same as the ovi-position excited in the tipula or libellula, by shaking these insects upon rough paper. Irritation of the os uteri by coitus; the use of the plug; vascular irritation and inflammation; ulceration of the os and cervix, will, if continued, excite reflex actions of the uterus, terminating in the loss of the ovum. Another uterine source of abortion is the implantation of the placenta over the os and cervix uteri. The presence of the placenta in this abnormal situation excites the uterus from within, in the same manner as the plug from without; hence the frequency with which placenta-prævia cases terminate in premature delivery. When speaking of ovarian irritation as a cause of abortion, I mentioned that this danger chiefly occurred during the early months of pregnancy. In placenta prævia, on the contrary, owing to the greater development of the placenta, and the anatomical changes occurring in the os and cervix uteri as pregnancy advances, the danger of abortion in these cases increases with the duration of pregnancy. Different tumours, malignant or non-malignant, attached to the os and cervix, or to the parietes of the uterus, when they excite abortion, act after

the same manner. To the long list of uterine irritations issuing in abortion, I may add injuries of the uterus itself from external violence, and inflammatory disease of the uterine tissues.

All these causes, it will be observed, whether vaginal, mammary, vesical, rectal, facial, or uterine, are purely excito-motor in their operation. The irritation is applied to the excitor nerves, and reflected through the spinal marrow upon the motor nerves and the uterus. It often occurs that two or more causes are in operation at the same time. The reflex contractions of the uterus which constitute abortion are not excited, as in the case of respiration or vomiting immediately on the application of stimuli. If cold water be thrown upon the breast, the movements of inspiration—if the fauces are irritated, the movements of vomiting—are instantly produced. But it is not thus in the case of the uterus. Though this organ is so distinctly under the control of the spinal marrow during, and immediately after, labour, so distinctly, indeed, that asperging the abdominal surface soon after delivery produces instantaneous uterine contractions, yet, during pregnancy, no reflex actions sufficient to cause abortion follow immediately upon the application of the ordinary stimuli of excito-motor action. It requires that the nervous arcs in relation with the uterus should be irritated for a considerable time, and an excitable state of the uterine nervous system is then produced, during which reflex actions are readily excited by slight causes.

All the excito-motor causes of abortion are, in fact, imitations of the ovario-excitor cause of natural parturition at the end of the utero-gestation, only in many cases, instead of the ovarian nerves being the inducers of the uterine nervous excitability which terminates in premature expulsion, it is the mammary, vaginal, rectal, &c. In the instances where ovarian irritation is the cause of abortion, the cause of abortion is precisely the same, and acts in the same manner as the cause of natural labour, the only difference being that of the *time*. I have said that oftentimes more causes of abortion than one are in operation; thus uterine irritation may produce the irritability or excitability of the uterine nervous system, but before this irritability has actually produced expulsion, irritation of the rectum may step in and complete the abortion.

[After some physiological remarks insisting upon the reflex character of the above nervous phenomena, the author proceeds to the consideration of the *centric* causes as follows:]

2. But besides the causes of abortion involved in physical irritation of spinal excitor nerves, there are other causes in which the circulation and the spinal centre are chiefly concerned. There are certain erythematic conditions of the system in which abortion is very prone to occur. These are, the exanthemata, particularly smallpox, and syphilis, in each of which a special poison is introduced into the blood: the pyrectic state of the system which obtains at the commencement of the non-specific fevers and simple inflammations of the viscera, is attended with similar danger; the scrofulous diathesis, too, has been considered as prolific of abortion as the syphilitic; but, I believe, with far less justice. The inhalation of carbonic acid rapidly excites abortion, and during accidental or intentional poisoning by

this gas the ovum is often found expelled. During the celebrated razzia in Algeria, in which a great number of Arab women were suffocated in the caverns of Dahra, those of them who were pregnant were found to have aborted. Military histories offer examples of the same kind in other countries. I believe the retention of noxious elements in the blood, in the albuminuria of pregnancy, to be a cause of abortion as well as puerperal convulsions. There are also certain specific agents, as the essential oil of savin and the ergot of rye, which, if persisted in, are adequate to cause abortion; and, lastly, all the agents recognised in toxicology may cause abortion, as well as the destruction of the parent, when administered during pregnancy. In all these instances the blood is the medium by which the exciting agent is conveyed to the spinal centre. They are precisely similar to the artificial abortion which may be excited in the lower animals by direct mechanical irritation of the spinal marrow.

Another important cause of abortion, acting through the spinal centre, is *emotion*. This cause, unlike those which reach the spinal centre, by the blood, is purely *psychical* in its nature. The influence of emotion in causing the uterus to evacuate its contents is as undoubted as the influence of emotion upon the stomach or upon the rectal and vaginal sphincters. But, as in the case of uterine excito-motor action, ordinary emotion does not affect the uterus instantaneously. Time is required for the effects of emotion to develop themselves into uterine excitability. The rapidity with which emotion affects the uterus is proportionate to the intensity of the emotion. A violent fit of anger, serious fright, or intense grief, may lead to abortion a few days after the violence of the emotion has disappeared. During religious persecutions women have aborted suddenly at the stake; and here the emotion produced by excessive terror would probably be the chief cause of the accident. Thus emotion may, under extreme circumstances, act upon the uterus, and produce abortion, even more readily than ordinary excito-motor causes.

[In the history of abortion, the author considers that there has been too general a tendency to attribute abortion to a universal cause; he alludes more particularly to the views of Dr. Bennet and Mr. Whitehead, already mentioned by us in a former volume, without, however, meaning to undervalue their researches.]

Art. 84.—*On Retroflexion of the Womb.* By Mr. Hensley.

(Prov. Med. and Surg. Journal, Jan. 12, 1848.)

[Until comparatively recent times the above-named displacement of the impregnated womb has been but little known, and even now its existence is either unknown or disbelieved in by the majority. Among the latter we confess that we were numbered until very lately, when we had the opportunity of being convinced of the reality of the affection, through the kindness of Dr. Protheroe Smith, who has contributed much to its elucidation. The affection has also been the subject of researches by Dr. Simpson, of Edinburgh, and indeed it is chiefly by the aid of his uterine sound that a correct diagnosis can be established. The symptoms are thus laid down by Mr. Hensley (see Report):]

In some cases no appreciable symptoms are produced, except perhaps a greater flow of the menses, and a greater tendency to abortion in the married female; whilst in others the symptoms are exceedingly distressing and complicated. It is, in most cases, difficult to trace the first origin of the affection; but in some instances, in which diligent inquiry has succeeded in doing so, the patient would appear to have been cognizant of some depression or falling down of the body of the womb, sometimes occurring suddenly, in other instances more gradually progressing—in the former, producing alarming sympathetic affections, as nausea and vomiting, and actual syncope, together with more or less pain referred to the groin or sacrum. The retroflexion, increasing or becoming permanent, produces some pain and difficulty, or frequency in micturition, though it never leads mechanically to retention of urine. The patients complain, likewise, of a dull, aching, constant pain in the sacral region, probably from the pressure of the fundus uteri on the sacral nerves.. The pain shoots down one of the thighs, and there is sense of weight in the rectum, much increased by the act of defecation. If the disease is not recognised, more serious symptoms appear. Menstruation becomes painful and more profuse, and clots and shreds are voided; in short, dysmenorrhœa is set up. The general health, at the same time, suffers more or less; the stomach becomes disordered, the bowels constipated, the spirits depressed, and hysterical symptoms are apt to occur. These symptoms, though they do not prove the existence of displacement, warrant an examination per vaginam, by which alone the displacement can be determined and rectified.

In examining a case of retroflexion during life, the finger reaches a firm globular mass, situated behind the cervix uteri, between the rectum and vagina. This is the fundus uteri bent downwards and backwards. The os uteri, instead of being tilted upwards and forwards, as in retroversion, is little, if at all, removed from its natural situation. At first we may not be able to determine this globular mass to be connected with the uterus at all. It may appear to be merely a scybalous accumulation in the rectum; hence we should, if possible, before examination, exhibit an aperient. In other cases, the tumour may be too high to trace its continuity. The exact situation may be traced per rectum.

It is, however, by the use of the uterine sound that we can obtain sure and valuable information of the displacement of the womb. In a case of retroflexion, on passing the instrument in the natural direction upwards and forwards, it becomes almost immediately arrested; but on turning its point in the contrary direction, backwards and downwards, it will pass readily along the cervix uteri, and then glide downwards and backwards to its full extent of two inches and a half. The point can now be felt distinctly in the centre of the tumour, through the posterior wall of the vagina, or the anterior of the rectum; thus proving it to be the fundus uteri in this unnatural position. Nor is this all. By turning the instrument gradually and gently round, so as to bring the point upwards and forwards, at the same time assisting the elevation of the fundus with the forefinger of the left hand, we shall find that the tumour disappears, it can no longer be felt, the

fundus is restored to its natural situation, and retained there by the sound without it. The patient will often be immediately relieved from the constant pain and uneasiness from which she has previously suffered in the sacral region.

The examination and passage of the sound produces in many instances little or no pain, until we elevate the fundus, when the instrument, pressing on the ovary, which we shall afterwards see is extremely apt to become congested and inflamed, in consequence of the displacement, occasions severe pain, which, however, immediately ceases on our completing the restoration. In the examination per rectum, the pressure of the finger on the fundus above occasions no pain, but if we elevate it, the patient immediately complains; and by passing the finger beyond the depressed fundus, we can discover the exact seat of pain to be the posterior and upper part of the fundus, in the situation of the ovary, which we can often feel as an oval body. These last symptoms are dependent on the inflammation of the ovary, and cannot, therefore, be regarded as essential to retroflexion of the uterus, but as the consequence of a complication. It occurs, however, sufficiently often to render it advisable in all cases of oophoritis of long standing, to examine carefully into the position of the uterus.

[The *predisposing causes* of retroflexion are stated to be congenital malformation, relaxation of the tissues, frequent abortions. The exciting causes are accumulations in the bowels, falls, violent efforts., &c. Mr. Hensley next remarks upon the serious consequences likely to ensue if the disease is not recognised; such as engorgement of the fundus, congestion and ulceration of the cervix, inflammation of the ovary, and possibly development of fibrous tumour. The treatment is alluded to as follows :—]

In the first place, the causes should be removed; the bowels must be unloaded, and kept gently open by saline aperients; the general health improved by alteratives and tonics; local engorgement relieved by leeches applied to the anus, or to the os and cervix uteri, followed by the warm hip-bath. The fundus must then be replaced by the uterine sound, and the patient enjoined to remain in bed on the side for some days. If the fundus remains in its proper position, so much the better; astringent injections will be all that is required. If otherwise, the uterus must be again restored; and perhaps, by keeping the sound a short time in it, we may overcome the tendency.

Should this means fail, we must employ the uterine supporter devised by Professor Simpson, an instrument which consists of a metallic or ivory pin, the length of the uterine cavity (two inches and a half), fixed in a disc or button, on which the os uteri rests, connected with and kept in position by a little frame, resting on the mons veneris, and which is properly fastened by tapes. Dr. Rigby improved this instrument by making the pin flat instead of round, and broader at the extremity, so as to adapt it to a larger surface, and by employing ivory instead of metal. Dr. Simpson had removed the objection of corrosion being produced by the secretions, by having the metal electro-gilded. The instrument should be adapted while the patient is in bed, and she should be kept quiet for some days, till the uterus becomes accustomed to its presence. I have known

peritonitis induced by the neglect of this precaution, the patient having walked home some distance. Where, however, the patient is cautious in her movements, and disposed to follow the directions of her medical attendant, the instrument may be worn for months without inconvenience, and excites less irritation or discharge than the ordinary pessaries. The instrument is generally required to be worn a month or six weeks to effect a cure; after wearing it a short time the patient is able to take moderate exercise.

Dr. Simpson has another instrument for the same purpose; it is a species of pessary, to which he has fixed a hinge, by means of a spring, like the blade of a knife; but this I have never used nor seen.

ART. 85.—*Retroflexion of the Uterus.*—Dr. Beatty remarks that the part of the uterus at which this deflexion takes place is that at which the neck and body of the organ join; and the angle at which the body is bent upon the neck varies, being sometimes very acute, and at others more obtuse. The displacement is most commonly the result of pregnancy; it could scarcely, if at all, occur during gestation, owing to the fulness and tension of the uterus; but in most cases it occurs subsequently to delivery Velpeau saw fifteen cases in which it occurred in the unimpregnated uterus, but after parturition. Dr. Davis is of opinion that this incurvation may have occurred congenitally, as the effect of an originally imperfect development, or as a result of disease, either of the uterus itself, or of the organs in immediate contiguity to it; but he gives no cases of either kind. This displacement is very different from retroversion, in which the os and cervix are thrown upwards; but in retroflexion these parts maintain their natural position, while the fundus is thrown downwards. The time at which this displacement occurs is most probably immediately after delivery, when the uterus is still large, but soft and pliable. It is likely, however, at the time of its occurrence, because the very urgent symptoms do not manifest themselves until the woman rises from her bed, and resumes her usual employments; then it is that gravity causes the pressure to be felt by the surrounding viscera, and the symptoms declare the nature of the malady. It generally happens, however, that the sensations are endured for a long time without complaint, in the hope that they will subside as the woman regains her strength. The organ, by this delay, becomes fixed in this unnatural position; a certain amount of chronic inflammation alters its tissue, and moulds it into its new shape, rendering all attempts at its restoration alone by mechanical means fruitless. A more favorable prognosis may be formed when the cases are recent, from the ease with which they can be rectified. The means to be adopted are those employed to restore a retroverted uterus; and, after the organ has been placed in its proper position, great care should be taken to keep the patient lying as much as possible on her face, until the uterus has shrunk into its original size. Some practitioners consider chronic deflexions totally incurable by any efforts of art exclusively, without the aid of nature, as exerted during the changes and developments which are the special attributes of pregnancy. The altered conditions of the tissue and texture must be

attended to, and the chronic inflammation must be combated by appropriate treatment. The symptoms attending this complaint are dragging pains in the loins, groins, and back, aggravated by walking, or making any violent effort. Pain and difficulty in defecation, and during the attempt a sensation is experienced as of something blocking up the passage, and preventing the exit of the contents of the bowels. Sometimes there is an irritable state of the bladder, also menorrhagia and leucorrhœa to a considerable extent.

Dublin Quarterly Journal, Nov. 1847.

ART. 86.—*Ulceration of the Lining Membrane of the Uterus.—Pregnancy advancing to the Seventh Month.* By CHARLES CLAY, M.D.

(*Obstetric Record*, No. 7.)

[We have, in a former Volume (Vol. V, p. 276), recorded a case adduced by Dr. Ramsbotham, and considered by him as so rare as to be only the fourth placed in the annals of science. Dr. Clay, in narrating the present case, takes the opportunity of expressing his belief that the disease is not so rare as is represented, and alludes to several references which he considers to indicate an acquaintance with its pathology. The case he now relates he considers unique in the fact of being accompanied by pregnancy.]

About the end of the year 1846 I was called upon to attend Mrs. M——t, a lady who had been under previous treatment for two years, for uterine disease. Her history of the case was, that at first the symptoms were trifling, but afterwards gradually increased in severity. The case had been under the care of various medical men, all of whom agreed in opinion "that the os and cervix uteri were ulcerated." The principal symptoms before my attending the case were occasional and excruciating uterine pains; the uterus itself considerably enlarged, and of a soft spongy feel; its size twice that of a large orange; when pressed upon over the pubic region was painful to the touch, which pain was increased when the os and cervix uteri were examined, per vaginam, by means of the finger. Whenever such examinations were instituted, they were followed by severe pain and increased discharges. These were irregular, and sometimes small in quantity, so that frequently for days together they appeared as if about to cease. Such cessation, however, was always accompanied by these concomitants, viz. enlargement of the organ, greater pain and tenderness, and a sudden discharge of accumulated matter. When this last occurred in any quantity, it was invariably streaked with blood. The character of the matter discharged was most decidedly pus, and highly fetid. The constitution suffered severely, the countenance was sallow, the body emaciated, and the patient so weak, that it was with great difficulty she could move about the room. Every method of treatment that could possibly be devised was practised, so as to improve the constitution, and washes of various descriptions had been applied by syringe. But every attempt failed in affording any but the most temporary relief, and her case was looked upon as hopeless. Two eminent physicians in London were consulted, but with the same result, and her mind was prepared for the worst. She was in this condition when

I was called in for the first time, and the case certainly appeared to be rapidly approaching its last stage. What rendered it still more lamentable was the depression of mind caused by a sudden transition from a state of comparative affluence to a very slender means of subsistence. This, combined with the cares attendant upon a family of small children, told terribly upon her weakened frame.

In order to labour under no misconception as to the real nature of the case, the speculum was applied, and the os uteri ascertained to be enlarged, malshaped, and of a dark livid colour. When the speculum was introduced the parts were well washed by means of a powerful syringe, and a strong light brought to bear on the uterine orifice. Pus was distinctly seen issuing in considerable quantities from the os uteri, and occasionally streaked with blood. The os and cervix uteri were very tender and painful when touched, and much increased in size. It must be borne in mind that this case had already existed, in a greater or less degree, for more than two years. For my part, I imagined that nothing but palliative treatment could relieve the patient, and I accordingly ordered injections, containing nitrate of silver, sulphate of zinc, creasote, &c. &c. This treatment temporarily improved the nature of the discharge, but the pains could only be controlled by draughts of muriate of morphine, which, at the commencement, were given in doses of half a grain, and which were ultimately increased to four and five grains each, and even this was often found insufficient to alleviate her sufferings. The uterus was now increased to a considerable size, being soft and spongy to the touch, excepting here and there, where a portion was felt harder and more unyielding, and presenting an uneven surface. This enlargement gradually increased, and with it increased the severity of the pains, their occurrence being more frequent, and their paroxysms more violent. Sometimes a jerking motion was experienced, and whenever this occurred, the pains came on with redoubled violence. The patient imagined that these jerkings resembled the motions of a child. The length of time, however, which the disease had existed, the extent and character of the discharge, its issuing direct from the uterine orifice, combined with the irritable state and unnatural form of the os and cervix uteri, the extreme tenderness on pressure extending over the whole uterus, its spongy feel, the patient's sallow countenance and emaciated system, and the excruciating pains endured, made such a supposition improbable, though the motions complained of, when tested by the hand, strongly resembled those of a fœtus. At this period I consulted my friend Dr. Radford, whose experience in female diseases is so well known. After a very long and careful investigation with the speculum, it was at length decided that extensive uterine disease undoubtedly existed, and from the amount of pus seen passing through the os uteri, it was pronounced to be ulceration of the internal lining membrane. The discharge was proved to be most certainly pus; and at a previous examination with the speculum, I passed a very thick wax bougie through the os uteri, and advanced it fully *four inches into the uterine cavity*. This attempt was followed by a large discharge of pus. But with all these untoward circumstances, on examining the enlarged uterus externally, and considering the

jerking motions alluded to, Dr. Radford concluded, and I fully agreed with him, that a child was in utero. The stethoscope also detected the fœtal circulation. The same palliative treatment was continued, and a strict watch kept on the case. As it progressed, the uterus enlarged, and the sufferings of the patient were piteous to behold. On the 21st of March, 1847, I was called hastily to her, and delivered her of a small emaciated child, apparently one of about seven months. It was, indeed, most painful to witness her sufferings during the dilatation of the os uteri, and the progress of the labour generally. The patient recovered from the effects of her labour very slowly.

The sequel of this case is equally interesting. The uterus is now March 1848, considerably enlarged (about four times the size of a natural unimpregnated uterus), and the discharge of pus still continues, occasionally streaked with blood. But the uterine pains are no longer severe, and she has within the last three or four months relinquished the morphine. It would appear that suckling the infant, which is still alive, keeps in check the virulence of the disease; for if ever the breast has been more than usually neglected, the uterine pains soon assume an increased severity.

Some curious reflections arise from the consideration of this case. With an extensive existing disease of the very substance of the uterus itself of (up to this period) nearly three years' duration, with such excessive discharges, the question may well be asked, how could conception be accomplished? Even admitting this difficulty overcome, a greater still follows, the almost complete impossibility of its advancing, as in this case, to the seventh month. Then, in addition to all, the peculiar and interesting fact of the non-closure of the os uteri during gestation; which is proved, first, by the excessive discharge, seen by the eye with the assistance of the speculum, to pass through it; and, secondly, by a large wax bougie being passed through the os uteri, at least four inches into the uterine cavity. The features of this case are so extraordinary that it would be difficult to credit them, were it not for the evidence of different medical men, and those of considerable experience. No less than five physicians and surgeons were unanimous in their opinions regarding the nature of the disease; and Dr. Radford and myself were witnesses to the latter features of the case, viz. pregnancy and delivery.

ART. 87.—*Reduction of an Inversion of the Womb, dating from sixteen months and a half.* By M. VALENTIN.

(*Revue Médico-Chirurg.* Nov. 1847.)

[The reduction of the inverted uterus, excepting it is accomplished speedily after the occurrence of the accident, is so rare an event that the following case will be read with interest:]

On the 8th of April, 1846, a female, æt. 20, of good constitution, was delivered of her first child. The midwife removed the after-birth by pulling violently at the cord, which proceeding gave rise to intense agony. Immediately on its extraction profuse hemorrhage took place, followed by prolonged syncope. The three following days the patient complained of severe abdominal pains, and there was more or less

sanguineous loss during an entire month, after which the discharges were replaced by a persistent leucorrhea. The patient soon observed that a tumour projected from the labia, which was readily ascertained to be the inverted uterus. After the lapse of six months, this tumour had so diminished in size that it re-entered the vagina.

At the end of a twelvemonth the patient was in the following condition: discoloration of the skin and lips, general laxity of the muscular system, slight puffiness of the face; nervous headache, frequent small pulse, and extreme general debility. The sanguineous discharges from the vagina were pale. In the centre of the upper part of the vagina a pyriform tumour could be felt, of the size of a pullet's egg. An annular ring pointed out the encirclement of the os uteri. Seen with the speculum, the mucous membrane appeared red and bleeding. Previous to any treatment, absolute rest was enjoined, with tonics and nutritious diet.

The reduction was accomplished as follows: after several months devoted to the recruiting the strength, on the 15th of August, 1847, the vagina was dilated by sponge tents, and the female was placed on the edge of the bed, as for the application of the forceps. The left hand of the operator then grasped the hypogastrium, the uterus itself was seized by the fingers and thumb of the right hand, and pressure made; but the screams of the patient caused the operation to be for the present abandoned.

On the 26th another attempt was made, with the aid of ether inhalation. The patient being rendered insensible, the same manipulations were gone through; but, as before, the uterus was altered in form, without the fundus yielding as was wished. The attempt was persisted in for ten minutes without progress, when etherisation was carried to the extent of inducing relaxation of the sphincters. At this moment the collapse of the system was complete, and the uterus partaking of the relaxation, the fundus allowed itself to be depressed under the finger, until at length it became suddenly restored to its normal state. In order to assure himself that the reduction was complete, the operator introduced his finger into the uterine cavity.

The patient had felt no pain during the operation, but complained of soreness over the pubes when she recovered her sensibility. (Laudanum cataplasms to the abdomen; low diet.)

27th. The pain extending to the sacrum; pulse frequent. (Vs. ad ℥x; hip-baths.)

28th. Pulse less frequent; pain less. (Leeches; hip-baths.)

From this time the patient went on favorably; and on the 20th of October went into the country.

ART. 88.—*Case of unavoidable Hemorrhage—Successful Operation of Transfusion.* By Dr. WALLER.

(*Medical Times*, Jan. 1848.)

The following interesting case occurred in the practice of Mr. Greaves. Hemorrhage appeared to an alarming extent in the eighth month. The patient appearing in a desperate state, Dr. Waller's assistance was requested. He found her in a very unpromising state,

with a completely blanched countenance, pale and livid lips, cold extremities, laborious respiration, and a pulse scarcely perceptible; the general surface of the body was also cold. In short, everything indicated approaching dissolution. Stimulants had been freely given, but they failed to excite even a temporary rally. The vagina was filled with coagula; and, as the hemorrhage appeared to have ceased, he did not think it advisable to disturb the clots in attempting delivery. Stimulants were again had recourse to, but with no better effect. The symptoms of exhaustion increased, and nothing but transfusion seemed, under these circumstances, to hold out the slightest chance of relief. Mr. Greaves concurring in this opinion, preparation was made for its performance. The first intention was to have laid bare the vein, and to have had all things in readiness, then to have delivered, and, provided there had been no improvement in the condition of the patient, to have transfused immediately afterwards. A little reflection convinced the operators that this plan would be fraught with danger; for, had syncope occurred, in all probability it would have been fatal. The operation was, therefore, at once commenced. When about five ounces of blood had been introduced the amendment was evident; the pulse was more perceptible, and the countenance assumed a somewhat better aspect. The blood now flowed very sluggishly from the arm of the female who supplied it; it was therefore determined to wait a while and watch the effects, nourishment and stimuli being administered occasionally.[8] The rally continued for about two hours and a half, when the female again began to sink, and jactitation supervened; gruel, with brandy, was given without any benefit; the pulse was again but just perceptible, and the body getting cold. Dr. Waller again injected about four ounces of blood from the same individual who had previously supplied it; but this time the symptoms did not improve. The stream issuing from the punctured arm was so languid that it was not thought right to proceed, and a fresh subject was sought to furnish them with a better supply. The husband of the patient, being in the room, came forward to their aid; he looked rather pale, and therefore they gave him a glass of hot spirits and water, and then opened a vein, from which the blood flowed in an impetuous stream. The first injection of about two ounces produced a marked alteration in the pulse; it became decidedly perceptible. When nine ounces had been injected, the countenance was much improved; there was even a slight appearance of colour in the cheeks, and pain in the arm was complained of. Four ounces more were introduced, when all symptoms of immediate danger vanished. There was no faintness afterwards; the surface was warm; the pulse steady, about 100 in the minute; jactitation ceased; and nourishment was retained on the stomach. The only complaint was of excessive fatigue, with an inclination for sleep; there were also a few "grinding pains." Dr. Waller visited her again in about an hour and a half. She had been dozing, and was extremely tranquil; reaction was perfect, and there was no hemorrhage, no tumult in the circulation. He now left the case in the hands of Mr. Greaves, who afterwards informed him that, after a sleep of some hours, the pains increased, and he felt a portion of detached placenta in the vagina; this was expelled by the natural efforts. A dead child

soon followed, the remainder of the placenta coming away an hour afterwards, without hemorrhage. The mother recovered.

[The failure of the second injection from the original person to rouse the patient, when the "stream issuing from the punctured arm was languid," and the instantaneous success derived from the freely-flowing blood from the husband's arm, are suggestive of valuable propositions, which should not be lost sight of in practice.]

ART. 89.—*Case of Complete Antero-version of the Uterus during Labour.* By Dr. MULLER, Homberg.—The author having been called to a woman in the country, said to have been three days in labour, found the parts of the child unusually distinct on examination *ab externo*, while the most careful examination could discover no os uteri: The woman was small, and of a lax habit of body, and the child seemed only to be covered by the abdominal parietes. Our author diagnosed an abdominal pregnancy, which was confirmed by two older and more experienced men called in for consultation. The question of the Cæsarean section was already agitated, and anxiety as to what was to be done with the placenta already felt; when one of the advisers recommended that, before proceeding further, the os uteri must be found. After great exertion, it was discovered, on the fifth day of labour, lying above the promontory of the sacrum, and sufficiently dilated to allow the membranes to protrude, and the child to be distinctly felt. The difficulty was now solved. The woman was placed on her hands and knees, the uterus then raised by a towel, the membranes ruptured, and the child extracted by the feet. Both mother and child did well; and the latter is now grown a woman.

Casper's Wochenschrift, Feb. 1847.

ART. 90.—*Case of Abdominal Pregnancy, with Suppuration and Extraction of the Fœtus through the Abdominal Walls.* By Dr. DÜCKERT.

(*Casper's Wochenschrift*, and *Monthly Journal*, Nov. 1847.)

A female while pregnant was tossed by an ox, and fell violently to the ground. Three hours after, she was found with a pale countenance, cold skin, and other symptoms of collapse. The abdomen was tender, and the fœtus could be distinctly felt through the abdominal walls on the right side. On external examination, the os uteri was found closed, and the vagina was pushed to the right side. The patient, during her pregnancy, had frequently suffered from pain in the abdomen. Under these circumstances, it was at first supposed that hemorrhage had occurred in the peritoneal cavity, but the symptoms increasing, an abdominal pregnancy was ascertained to exist. The hemorrhage from the vagina became more and more watery, and continued three weeks. An abscess was subsequently discovered below the umbilicus, and an incision being made into it, a fœtus was seen presenting and removed, together with a putrid placenta. No very great hemorrhage ensued, and the wound was brought together by sutures. The discharge at first was considerable, and very fetid, but

was soon succeeded by that of good pus. The fever was of a low type, but gradually disappeared under the use of stimulants and tonics. By the end of the year the wound was completely closed.

Art. 91.—*Case of Interstitial Pregnancy.* By M. Payan.

(*Gazette Médicale*, No. 48, 1847.)

An unmarried female, æt. 32, had arrived at the third month of her second pregnancy, when she was suddenly seized with abdominal pain, and thirst. Leeches were applied, but prostration and collapse gradually ensued, and she died in the course of a few hours. The suspicion having been excited that abortion had been intentionally induced, the body was inspected by order of the authorities.

A large quantity of blood, partially coagulated, was found in the peritoneal cavity, and covered the womb. At the upper part of this organ, a semitransparent pouch presented, which contained a fœtus. The vagina was healthy. The os tincæ admitted a finger.

The womb was found to be of the size usual at the third month. When cut through longitudinally, its cavity was seen to be of proportionate dimensions, but void, and lined with decidua. Above the uterine cavity was found another, which occupied the left side of the fundus near the fallopian tube; but it could not be ascertained that the tube opened into it. It did not, however, communicate with the proper uterine cavity. This second cavity was formed in the thickness of the fundus uteri, the tissues of which were stretched to that degree that they became almost diaphanous. The cavity contained a fœtus of three months.

Although the hemorrhage into the abdominal cavity was readily explicable on the supposition of a spontaneous rupture of the fœtal cyst, two of the medical witnesses advanced another opinion. They maintained that an instrument had been passed into the womb, which had perforated the fundus, and thus, through this perforation, the ovum had been forced by the contractions of the uterus. The ovum was, in their opinion, mistaken by M. Payan for a fœtal cyst.

M. Payan supported his view of the case, that it was an instance of interstitial pregnancy, and opposed the idea of perforation upon the following grounds: 1st, that if the ovum had ever been in the uterine cavity, it must have been injured by any instrument which had pierced the fundus uteri; such, however, was not the case; 2d, because, if the ovum had been expelled from the uteri into the abdominal cavity, the placenta would necessarily have been detached, in which case hemorrhage per vaginam would have ensued.

Art. 92.—*Spontaneous Rupture of the Uterus before Labour.* By Thomas F. Brownbill, Esq., Surgeon to the Salford Workhouse.

(*Prov. Med. and Surg. Journal*, Dec. 29, 1847.)

M. A. Glover, æt. 28, was of rather short stature, well proportioned, and had a healthy appearance. She had been married about eight years. In ten months after marriage, after an ordinary labour of about nine hours' duration, she gave birth to a full-grown female child, which lived about four months. Soon after labour, which I un-

derstand was quite natural, she was seized with convulsions, followed by delirium, &c., which, continuing for a week or ten days, subsequently resulted in an attack of puerperal mania, for which she was afterwards admitted into the Manchester Workhouse. Here she remained about two months, and as no improvement had taken place, was then sent to Lancaster Asylum, whence, having been confined seven or eight months, she was discharged cured, and from that until the present time has enjoyed uninterrupted good health, having been separated from her husband during most of the time since her last confinement. She again became pregnant, and was admitted into the Salford Workhouse on the 4th of November last, in order to lie in.

She stated that in the beginning of the seventh month of gestation, whilst hanging out some clothes, she received a fall, which shook her violently, but did not cause her, either then or afterwards, any particular pain. On the 20th of November, at 6 a.m., after having passed a restless night, with occasional slight uterine pains, she began to vomit. This was followed by several pretty strong pains, during one of which she experienced (to use her own expression) a severe crack in the back, with a feeling of something suddenly giving way in her inside, which was immediately followed by a discharge of liquor amnii from the vagina. The midwife, who was an intelligent and experienced person, was accordingly sent for, and was soon in attendance. She found, upon examination, the os uteri nearly closed, hard, and incapable of admitting the point of the finger; there was a slight discharge of a brown colour from the vagina; the patient had vomited the contents of the stomach, and the pains had altogether subsided. Under these circumstances she left her, and found, on her return at 3 p.m., that she had had no pain during her absence; the os uteri was lower down, and more yielding, though not in the least dilated, and a slight discharge of water, tinged with blood, escaped whilst making the examination. She had not slept nor felt the motion of the child since. Soon after the waters broke. A dose of castor oil was now ordered.

On visiting her the following evening, at the request of Mr. Roberts, the governor of the workhouse, I found the oil had been rejected by the stomach, and the vomiting had continued more or less to the present time, the matter at first being of a greenish-yellow, and afterwards of a chocolate colour; labour had not in the least progressed, the os uteri remaining as before, if anything, more contracted; had no pains; complained of being weak and poorly, and, although several opiates had at short intervals been administered, she had as yet not slept, and, with a feeble pulse, her countenance now began to assume an anxious expression.

Nov. 22d. About 11 a.m., she began to dose for short periods, but this state soon gave way to extreme restlessness, almost incessantly requiring her position to be altered. She now complained of severe pain in the middle of her back, and her pulse was evidently sinking. Between one and two o'clock her breathing became laborious, her finger-nails turned livid, a continued gasping followed, and in this state she died.

The body was inspected twenty-four hours after death, in the presence of several medical friends, and Mr. Roberts, the governor. The abdomen was found to contain a large quantity (about two pints) of dark-coloured uncoagulated blood, probably diluted with a portion of the liquor amnii, and this being partially removed, the first object that presented itself, entirely excluded from the womb, and partially covered by the omentum and small intestines, was a full-grown male child, that had evidently been dead several days, the first stage of putrefaction having commenced. On partially removing the child, which lay with its left shoulder to the womb, a large rupture of this organ was observed, extending from the centre of the fundus posteriorly along its whole length as far as the os uteri, leaving only a narrow rim surrounding it, and through which the child had escaped into the cavity of the abdomen. The length of the opening was about seven inches, and the uterus, which seemed perfectly healthy, was well contracted over the firmly-adherent placenta.

ART. 93.—*Cancer of the Uterus simulated by the Irritation of a Piece of Sponge.*—Dr. Mitchell relates the following instructive case. Mrs. P., æt. 26, a delicate anæmic woman, married two years; commenced menstruating at sixteen, and has been regular up to the last year and a half. When four months married, she had an abortion, and amongst other means employed to arrest the flooding the vagina was plugged. She continued for a long time in a very precarious state, and has never been well since. She now (January 16, 1846) complains of great pain at the lower part of the abdomen, with constant pruritus of the vulva; but what distresses her most is the constant discharge of a dirty sanious fluid from the vagina, varying in quantity at times, but always increased during the menstrual period, the fetor being at all times unbearable. She has consulted several medical men, some of whom have pronounced it cancer. She is much emaciated, and in very low spirits, having tried a variety of remedies without benefit. The speculum has been used, and applications made to the part. On examining with the finger, the mouth of the uterus could not be detected at all, but a soft fleshy mass, occupying its place, and projecting over the cervix and into the vagina, quite insensible to the touch, could be felt. On introducing the speculum, a dark-coloured fimbriated body was brought into view. The end of an uterine sound was applied to it for the purpose of tracing its attachments, during which examination a small piece was detached. This piece was put under water, and found to consist of a minute portion of sponge, with a quantity of what appeared to be lacerated muscular fibre.

The after part of the treatment was very simple. Portion after portion of the mass was detached without much trouble, the whole being in a completely decomposed state, and only held together by the granulations from the uterus, which were very long and tender. The separation was attended with a small loss of blood. The pieces when put together, weighed five drachms and a half. The vagina was syringed out frequently with warm water, and the surface of which the sponge had been applied touched three times with nitrate of silver, at an interval of four days between each application. At the end of a

month the os uteri was quite normal, with the exception of a slight induration and puckering of the lips. The menstrual function has been naturally performed, and she is gaining strength and flesh. This lady continued to improve, proved pregnant in March, 1846, and was safely delivered at the full period.

Dublin Med. Press, Dec. 8, 1847.

ART. 94.—*On Phlebitis of the Brain and Meninges in Puerperal Women.* By DR. F. M. DUCREST.

(*Achives Générales de Méd.* Nov. 1847.)

According to the author, this affection in puerperal women is of rare occurrence, only five instances of it having occurred among 259 cases in which the head was examined after death. In one of these instances, the affection was not accompanied by any other cerebral disease; in the others, it occurred in combination with cerebral or meningeal inflammation.

The first case was a woman, æt. 19, presenting the appearance and physical signs of phthisis, who was delivered of a male infant at the eighth month, and afterwards became affected with frequent pulse, and a peculiar tremulous motion of the eyelids, lips, and tongue. At first, there was no other symptom; but on the seventh day after delivery, there was an increase of the affection, with delirium, headache, and some convulsive movements of the limbs. On the ninth day the pulse and respiration were accelerated, jaws locked, tongue dry, articulation imperfect, but intelligence apparently unaffected. There was great feebleness of all the limbs, and nearly complete paralysis on the left side. In a few hours the pulse fell to sixty, the respiration became slow and laboured: soon after she died. On dissection, the meninges were perfectly healthy; the cerebral hemispheres also healthy; but on section of the right side of the pons varolii, and the cerebral and cerebellar peduncles of the same side, the vessels in the interior of these parts were found distended to the size of a large pin by firm, dark clots, which, when extricated, appeared as dark brown cylinders of above a centimetre (nearly half an inch) in length. Around these, the cerebral substance was of natural colour and consistence. The lungs were extensively tuberculated, and contained numerous caverns. On the right side of the uterus was found a quantity of pus, surrounded by a slate-coloured induration of the substance of the organ, two millimetres (one line) in thickness.

The second case was that of a woman, æt. 25, who was delivered naturally, but soon after was seized with pains of the hypogastrium and limbs. These were followed by shiverings, fetid diarrhœa, and colic pains. The milk was suppressed, and leech-bites on the abdomen suppurated. On the ninth day, the pains being mitigated, she had severe cough, with crepitant râle at the posterior and lateral parts of the right lung. From the fourteenth to the seventeenth day, the right buttock swelled, and became the seat of lancinating pain; a large quantity of pus, with fetid gases and sloughs of cellular tissue, were evacuated by incision. In the meantime there had been watchfulness

and delirium, with gradually increasing loss of intelligence, and moderate cephalalgia. She died on the twenty-seventh day. The pulse varied between 108 and 140, and the respiration between 28 and 48. On dissection, there was considerable subarachnoid effusion; the veins of the pia mater, on the convexity of the right hemisphere, were filled with firm, friable, adherent clots, of a whitish colour, extending in some places into the cortical substance, and being darker in colour there and in the anfractuosities. The cortical substance was somewhat softened, and of a reddish colour; white cerebral substance not altered. The lungs contained some tubercles, and the lower lobe of the right lung was the seat of lobular pneumonia; several of the vessels were filled with partially-softened clots. The venous sinuses and lymphatics of the uterus were filled with pus; the broad ligaments were also infiltrated with pus. The cellular tissue between the sacrum and the left great trochanter, was gangrenous, and full of pus.

The third case presented successively hypogastric pain and tenderness, with numbness and painful swelling of all the extremities, beginning with the right arm, in which she had been bled. The cerebral symptoms and progress of the case were very similar to the last case, with the additional symptoms of vomiting before death, which happened on the seventeenth day from delivery. On examination, the veins of the right arm were swelled, and filled with pus; the left lateral sinus of the dura mater contained a light-coloured clot, and the veins of the posterior and inferior parts of the left cerebral hemisphere entering into this sinus were distended with dark blood firmly coagulated. There was extensive softening of the posterior part of the left hemisphere, which contained in its vessels numerous small clots. The vessels of the uterus contained pus, as in the last instance.

The fourth case commenced two days after delivery, with intense headache, convulsions, and transient stupor. On her removal to the hospital, the headache continued, with slow, troubled utterance, tenderness of the abdomen, and fever. She was bled, and the blood presented no buffy coat. An hour afterwards she had a convulsion, in all respects like an epileptic attack, with coma, lasting for a quarter of an hour, and up to the morning of the next day she had twelve nearly similar convulsions. The abdominal pain continued, and she had a shivering. The fourth day after delivery there was immobility, insensibility, and a contraction of the right limbs, with perpetual agitation of the left, afterwards plaintive cries, coma, stertor, resolution of the right limbs, continued agitation of the left; pulse irregular, 140. Death occurred next morning. On examination, there were clots in the sinuses of the dura mater, and ecchymosis on the surface of the left hemisphere; the vessels of the pia mater in the neighbourhood of this ecchymosis contained reddish clots; the pia mater, both externally and in the ventricles, infiltrated with pus. The lungs contained miliary tubercles. The cavity of the pelvis, and various parts of the peritoneal cavity, contained pus; the uterine tissue was healthy; some clots of blood were in the venous sinuses.

The fifth case occurred in a subject affected with extensive pulmonary disease, who was seized with headache, and most of the symp-

toms mentioned in the first three cases, while yet undelivered, though at the full term of pregnancy. The morbid changes were in great part similar to those previously described; but the amount of softening of the cerebral substance was greater than in any of the others, and the number of veins occupied by the firm coagula smaller; so that this case seems more important, in reference to the peculiarities of the disease, than any of the preceding.

SECT. II.—DISEASES OF CHILDREN.

ART. 95.—*On the Theory of Spasmo-paralysis in Infants and Adults.* By MARSHALL HALL, M.D., F.R.S., &c.

(*Lancet*, March 18, 18[illegible])

[The above term is applied by the author to an affection which must be well known to most practitioners, viz. a more or less permanent and apparently spasmodic contraction of one or more limbs, accompanied by a greater or less amount of atrophy and incomplete paralysis of the muscles. He observes:]

Paralysis may depend upon the exclusion of the influence either of the cerebrum or of the spinal marrow—that is, of both cerebrum and spinal marrow. Spasm can only arise from irritation of some part of the spinal system; but this irritation may affect the incident excitor nerves, the spinal centre, or the muscular nerves. Spasmo-paralysis is a term which I have adopted to express the varied combinations of spasm and paralysis which occur so frequently in practice.

Infants are often born with distortion of the foot or feet, and during growth a paralytic weakness and atrophy are conjoined with the spasmodic action of the muscle. A similar effect is sometimes seen to take place in infancy. In some cases of hemiplegia, spasmodic contraction of the hand and arm accompanies the paralytic attack. In other cases, a spasmodic contraction of the hand gradually takes place more remotely from the attack. What is, then, the theory of these cases?

Intra-uterine spasmo-paralysis.—How interesting would be a series of accurate cases, and post-mortem examinations of the various congenital spasmodic and spasmo-paralytic affections, of cheirismus, and especially of podrismus, in the varied deformities of club-foot. Is the cause of the calamity always of centric origin, or is it sometimes the reflex action of external cold, &c.? The class of intra-uterine diseases still requires renewed investigation; no part of it more than the affections of the nervous system.

Effusion over the hemispheres and at the base of the encephalon, and along the spinal canal, is too frequently the cause of irritation—pressure or counter-pressure on the spinal system—the diseases of the nervous system, which is endowed with excito-motor power. This irritation is the source of various congenital convulsive or spasmodic affections; it may be the cause of strabismus, laryngismus, &c., and of

various distortions of the hands and feet. In the case of two brothers similarly affected, the tendo Achilles was permanently contracted, with spasmo-paralysis of both legs. On the death of one, æt. 12, effusion on the cerebral hemispheres at the base of the brain, and along the spinal canal, was found in considerable quantity. The arachnoid was thickened, and over the lateral portion of the hemisphere was converted into a thin layer of bone.

Of spasmo-paralysis in infants and children.—Spasmo-paralysis in infants and children is of centric and of ex-centric origin; the prognosis of the former being, of course, far more formidable than that of the latter.

Teething, and gastric and intestinal irritation, and, I *suspect*, exposure of the naked surface to the cold, are the causes of the reflex or ex-centric forms of this malady. From such causes I have seen hemiplegia of the arm, or of the leg, or of both; and the proof that the affection *was* of reflex origin was a very happy one—viz. speedy recovery.

The event, however, is not always so fortunate.

Sometimes both legs are affected, and this affection is sometimes more observed in one leg than in the other; sometimes the spasm, sometimes the paralysis, predominates; and sometimes one leg is affected with paralysis, whilst the other is affected with spasmo-paralysis.

Spasmo-paralysis in the adult.—But of all the cases which have come under my observation, none have been more replete with interest and anxiety than spasmo-paralysis occurring in the adult period of human life.

It is well known that the epileptic convulsion sometimes leaves one arm, one leg, or one side, paralytic or hemiplegic, in a greater or less degree. If the seizures were not to be repeated, I imagine this paralysis would frequently subside, being the effect of shock, and of the common cause or causes of the convulsion and of the hemiplegia, which is therefore not permanent. But if the shock be repeated, the paralysis may be permanent, although the convulsion subsides.

In one most interesting case, a lady, æt. 35, was seized with violent convulsion of the left side of the face, and of the left arm, the leg being unaffected; when the convulsion ceased the face and arm were left extremely, if not perfectly, paralytic. A degree of amendment took place; but the convulsions returned, occupying the same seats as before, and, on ceasing, again left the face, arm, and hand absolutely paralytic.

This lady had once had phlegmasia dolens after parturition, and this leg again became swollen. But the cause of the attack of convulsions seemed to be discovered in the condition of the intestines; for these convulsions were relieved by purgative medicines, but were excited if those medicines acted too violently.

From the paralysis left by this serious attack, or repetition of attacks, the patient recovered completely—an additional proof that the affection had, like many cases of epileptic seizure, arising from some cause excentric to the encephalon or spinal marrow. And how invaluable is this fact, in reference both to our prognosis and treatment!

Indeed, I may here observe that spasmo-paralysis is in every respect a disease of less hopeless character than pure paralysis, inasmuch as the irritation of an organ is a less severe affection than its destruction. The diagnosis or detection of the cause is the first great object of the physician, and especially the determination of the question, whether that cause be seated centrically or ex-centrically.

In one case, which occurred in a member of our own profession, after repeated threatenings supposed to be apoplectic, severe spasmo-paralysis supervened, and remained permanent. Bleeding had been resorted to constantly as *the* preventive. It ought, I believe, to have been decided, but not too severe, antacid aperients, with a strict attention to the diet, which should not have been of a mere vegetable, but of a light and digestible character.

There was, I believe, more of the epileptic than of the apoplectic in those threatenings. Is there any physical lesion? Is the case, or was the case, one admitting of recovery? How deeply interesting are all these questions!

It is plain that the new topic—new because now viewed distinctly—of spasmo-paralysis will assume an important position amongst the objects of the physician's studies.

I have two patients under my care at this time, with podrismus, occurring at the ages, in one, of 25, in the other, of 45. Both are females. In the first, the right foot is drawn upwards and inwards, and so severely, as to induce great tenderness and swelling of the outer ankle. Various symptoms of nervous origin are conjoined with this deformity of the foot. In the other, the tendo Achilles in each leg is tense, and the toe only, and not the foot, much less the heel, can be put to the ground. In this case almost every article of food or medicine is rejected by vomiting.

I do not believe that either of these cases is hysteria. There is no other symptom of hysteric character, and the temperament in both patients is staid and sedate.

Conclusion.—From the recent progress of the physiology of the nervous system, we are now enabled to conclude—

1. That *paralysis*, pure paralysis, *may* be an affection either of the cerebrum, the spinal marrow, or the nerves; but

2. That *spasm must* be an affection of some part of the true spinal system; and

3. That spasmo-paralysis must at least involve in it an affection of the true spinal system, either primarily or secondarily.

There is only one exception to this last rule: it is the case of severe hemiplegia, in which, from the mere facts of the severing of the influence of volition, and the normal or physiological action of the spinal marrow—the source at once of the irritability of the muscular fibre and of tone—the affected hand frequently becomes spasmodically flexed.

Here I conclude this brief paper. I think I have clearly shown in it, once more, how important, how essential physiology is to the physician, and pointed out a distinction to be carefully drawn between paralysis, and spasm, and spasmo-paralysis, as at once a guide to our prognosis and our treatment.

ART. 96.—*On the Convulsive Affections of Infancy.* By Dr. MARSHALL HALL.

(*Lancet*, July 12, 1847.)

[In a paper recently read before the Medico-Chirurgical Society, the author has made the convulsive diseases of infancy the subject of lengthened and minute description. Our space will not admit of the reproduction of the entire communication, which, indeed, is not necessary; for we do not see that any new fact or elucidation is added to those which the author has some time since published, in his valuable work on the 'Disorders of the Nervous System.' Of the practical part of the paper the most interesting are the two following extracts:]

Diagnosis.—The diagnosis in the convulsive diseases of children is—

1. That of the kind or *origin* of the disease, and especially that between the *centric* and *ex-centric* affection.

2. That of the form of the disease, and especially that of the different partial, and general convulsive affections; for it may be so partial as to consist of one symptom only, as strabismus, laryngismus, or it may be general.

In the *centric* affection there are generally pain and cerebral symptoms, as affections of the sleep, temper, and senses—wakefulness, fretfulness, intolerance of light and noise, and a peculiar contraction of the brow from the beginning.

In the *ex-centric* affection there is, at the first, no cerebral symptom; all the phenomena are spinal; general convulsion must take place before cerebral symptoms are observed.

The diagnosis between that part of this affection designated laryngismus and laryngitis is founded on two circumstances: 1st, the transitory character of the symptoms in the former, and its permanency in the latter; and, 2d, the complication of the former with strabismus, chirismus, and other convulsive or spasmodic affections.

The same principles of diagnosis distinguish spasmodic laryngismus from any paralytic influence or compression of the pneumogastric nerve on the larynx; in which case, there may be other effects of paralysis of the pneumogastric nerve, especially accumulated secretion in the bronchial tubes and pulmonary tissue, leading to cough and various "*râles*." The reality and the unbiassed diagnosis of this form of disease are still to be ascertained.

Laryngismus induced by bronchitis, or any inflammatory affection of the trachea or larynx, acting as an irritant on the incident laryngeal nerves, would be distinguished by the same absence of other spasmodic affection.

Prevention and treatment.—I now come to the last and most important topic of my paper, the prevention and treatment of convulsive diseases; to which, indeed, the views which have been given immediately lead, and in the course of which they serve as a torch to enlighten our path.

The first thing to be accomplished by the physician, as in all other cases in practice, is a full and accurate diagnosis of the disease, its

form, its simplicity, or complexity; its effects: and especially whether there has or has not occurred general convulsion.

If the case be one of centric origin, which is the more rare, the original disease must, of course, be treated energetically. If it be of ex-centric origin, or reflex, which is by far the more frequent case, the excitant or excitants, whatever these may be, must be carefully sought out, removed, and avoided.

But, *as a rule*, in *all* cases, the influence of *all* excitants, *all* excitants of emotion, of reflex action, must be absolutely removed. For even in the centric affection it may be undue excitability only which is induced, and the *attacks* may depend upon external excitants.

The augmented arterial action within the gums and the alveolar processes must be subdued by deep, diffused, and repeated scarification of the gums, conducted with every precaution, to avoid excitement of a mental kind.

The stomach should be emptied forthwith. This may frequently be readily done by irritating the fauces with a feather, or the finger; or a dose of ipecacuanha may be given; and then such diet should be administered, according to such rules, as may prevent the presence and delay of undigested matters in the stomach. A new and healthy nurse, or asses' milk, given by means of the bottle, are resources of the utmost moment.

The intestines should be promptly washed out by means of ample enemata of tepid water, and they should then be kept well relieved, gently free indeed, by means of mild but efficient aperient medicine.

I have great reason to suspect the existence of undue *acidity*, not only in the stomach, but in the course of the intestinal tube, in those cases; and I strong recommend *antacid* aperients, such as a combination of the bicarbonate of potassa and the carbonate of magnesia, in the proportion of one fourth and three fourths, in some proper aromatic or aperient vehicle, and repeated so as to produce the double effect of neutralising the gastric acid and moving the bowels.

The next object is to guard the little patient against every injurious impression from the external atmosphere. When the north-east winds prevail, or the air is cold or damp, the patient's bed should be surrounded, at intervals of about one foot, by *three* distinct curtains or tents of gauze, or of net; the air of the room should be protected from partial currents, be well supplied with hygrometric moisture, and be maintained at a temperature of 65° Fahr.

Every mental disturbance must be avoided; the approach of a stranger, the administration of the gum-lancet, and, not less, of medicine or other remedies, must be managed as carefully as possible.

The *sleep* should be *watched;* if it be disturbed by dreaming or starting, the infant should be gently awakened, and any sudden noise or light should be avoided; precautions necessary, indeed, at all times.

As stammering would scarcely exist without emotion, so the convulsive diseases of infants and children, especially those of ex-centric origin, would scarcely exist without emotion and excitants of reflex action; an aphorism of the utmost moment in practice, and admitting of great extension; for in this respect, with the affection under consi-

deration, chorea, the paralysis agitans, tetanus, and even hydrophobia itself, may be ranked in some degree.

If laryngismus should exist and be extreme, the larynx being closed, water must be forcibly sprinkled on the face; the larynx is opened by the new excitant acting on other nerves and muscles, and inspiration is excited.

If apparent asphyxia have taken place, and this measure have been tried in vain, artificial respiration should be attempted; the chest and abdomen should be compressed, and the pressure should be suddenly removed. (I once witnessed asphyxia from this cause in a puppy. I applied my ear so as to examine the beat of the heart; the pressure induced expiration, and inspiration followed on its removal, and the puppy recovered.) Or the lips of the practitioner should be applied to the mouth of the infant, whilst its nostrils are closed, and its trachea pressed against the œsophagus. In a word, every measure should be adopted to which we have recourse in other cases of asphyxia.

If general convulsion be threatened, or have occurred, every precaution and measure should be adopted which can protect the cerebrum from congestion and its effects; the alcoholic lotion applied to the head, leeches, cupping, mercurials, and purgative medicines, fomentations and warmth applied to the feet, &c., must all be employed with promptitude and energy.

The secretions must be attended to; the bile, the urine, especially. If the former be deficient, the use of warm-water enemata should be doubly enforced. If the urine be affected with lithate deposits, the antacid aperients must be doubly enjoined.

The hydrocyanic acid, hyoscyamus, &c., may also prove useful.

Art. 97.—*The Treatment of Acute Hydrocephalus.* By Dr. West.

(*Medical Gazette*, July 16, 1847.)

[In the treatment of this disease three remedies are chiefly mentioned—depletion, purging, and mercury. Of the former, Dr. West observes:]

"With reference to depletion, you must not forget that the disease in which you are about to employ it, although inflammatory in nature, is inflammation in a scrofulous subject, and is in many cases grafted on a previous organic disease; such as those tubercular deposits in the membranes of the brain which I have already described to you. You cannot, therefore, hope to stop short the affection by a large bleeding; but your object must be to take blood enough to relieve the congested brain, and no more than is necessary for that purpose. Avoid precipitancy in what you do, and do not let your apprehensions betray you into that over-activity which is sometimes more fatal to a patient than his disease. If you feel any doubt as to the necessity of depletion, visit your patient again before determining on it, but do not delay that visit long. Order a dose of calomel, to be followed by some sulphate of magnesia, if, as is most probable, the bowels be confined,

and return again in three or four hours. You may then find that the bowels have acted, and the sickness has ceased; that the head is cooler, and aches less; and that depletion is, for the present at any rate, unnecessary. Or the child's state may be the same, and you may still feel uncertain as to the right course. In that case, at once obtain the assistance of some other practitioner; this is the season when advice may be really useful, for it is only at the outset of the disease that its cure is possible. When convulsions have occurred, or coma is coming on, your treatment matters comparatively little, for the season of hope and the opportunity for action have then fled.

Though you may have determined on the propriety of depletion, it will be seldom found, even at the outset of the disease, that the character of the pulse is such as to warrant venesection. Local bleeding will generally answer every purpose, and the age and docility of the patient will determine whether it shall be performed by cupping or by the application of leeches. The former is more effective, and, from its shorter duration, often occasions less excitement and annoyance than the latter. In children who are very unmanageable, however, or in very young infants or children, the employment of leeches is always preferable. They should be applied to the vertex, because if put on the temples they hang down over the eyes, and terrify the child; if behind the ears, they are very likely to be rubbed off as it rolls its head from side to side. I will not say that this depletion is never to be repeated, but I believe that in by far the greater number of cases you will do no good whatever by its repetition, and the exceptional cases will generally be those in which very marked relief having followed the first bleeding, the symptoms of congestion of the brain appear to be returning twenty-four or thirty-six hours afterwards. If you do not see the child until the second stage of the disease is far advanced—till general convulsions have occurred, or twitchings of the limbs, or of the muscles of the face, an appearance of extreme alarm, or a state of alternate contraction and dilatation of the pupils show them to be impending, you must be exceedingly careful in abstracting blood. Under such circumstances, I have seen convulsions, to all appearance, induced, and the fatal course of the disease accelerated by a rather free, though by no means immoderate, loss of blood.

The value of purgatives in the treatment of hydrocephalus can scarcely be overrated; but they must be given so as not merely to obtain free action of the bowels, but to maintain it for some days. After having once overcome the constipation, you will secure this end best by giving small doses of purgative every four or six hours. The administration of a strong cathartic every morning will not answer this end nearly so well; for, independently of the chance of its being rejected by the stomach, you will find that the dose which sufficed the first time will not be large enough the second, and that there will be a constantly increasing difficulty in obtaining an evacuation. The nausea and vomiting, which at first stood in the way of your administering any medicine, are often so much relieved by depletion that the stomach will almost immediately afterwards bear a dose of calomel and jalap, or calomel and scammony, which may be repeated every three

hours until they act, while you at the same time endeavour to quicken their operation by the administration of a purgative enema. There is no use, however, in persevering with them if they excite sickness; and it is then better to give a single large dose of calomel in some loaf-sugar, and to follow it by a solution of the sulphate of magnesia, which should be repeated at short intervals. When a free evacuation has been obtained, the same salt, in combination with the nitrate of potash, will often keep up a free action of the bowels, as well as stimulate the kidneys to increased activity. These remedies may either be mixed with the child's drink, or be dissolvèd in water flavored with syrup of lemon or of orange-peel.

Hand in hand with purgatives I would have you continue the administration of calomel; but I do not put faith in calomel alone, nor in the production of salivation as a means of curing hydrocephalus. I have seen children die whose mouths had been made sore by mercury, without any influence appearing to have been thereby exerted on the disease; and I recollect two who, at the time of their death, were in a state of most profuse salivation. Whatever good I have seen in these cases from calomel, has been when it was given in combination with purgatives, or when it produced a purgative effect.

Let me, however, again remind you that you may have hydrocephalus combined with tubercular ulceration of the intestines, and that in such a case diarrhœa may exist from the outset, or may come on after a mild dose of some aperient. Now and then, too, without such a cause, constipation is absent, while diarrhœa comes on occasionally in the far advanced disease. You must not, therefore, draw inferences as to the state of the patient too exclusively from the condition of the bowels.

Cold is likewise a very valuable agent in the treatment of hydrocephalus; but its application requires to be judiciously regulated. You will generally find it of service after depletion, for you have extracted blood on account of the febrile disturbance, and heat of the head, and other indications of congestion of the brain; in all of which cold will be a powerful auxiliary in subduing. So long as the signs of active congestion of the brain are present, cold will be of service; but it should not be employed independently of those symptoms which betoken the existence of that condition: nor can you hope to see any benefit result from cold applications to the head in the advanced stages of the disease. I need scarcely say that the application of cold with a shock, or the pouring cold water from a height upon the head, though a very valuable means of rousing a child from the state of coma into which it sinks in some cases from cerebral congestion, is wholly inapplicable in the coma of hydrocephalus. The functions of the brain are here not merely interrupted by the excess of blood in the organ, but they are abolished by the disorganization of its tissue, or the compression of its substance by the effusion of fluid.

In the management of children attacked with hydrocephalus, you must not forget that for the most part they are of feeble constitution, and that they will not bear too vigorous a diet. Just at first, indeed, while the febrile symptoms run high, and the bowels are unrelieved, or the sickness is urgent, the less the patient takes the better. After-

wards, however, it is desirable that he should be supplied with as much light and unstimulating nutriment as he will take; such, for instance, as arrow-root, or veal- or beef-tea, either of which will often remain on the stomach when most other articles of food or drink would be rejected.

In the treatment of many diseases you see physicians destroy pain by narcotics, and the question naturally suggests itself to you whether you may not sometimes venture, in the management of hydrocephalus, to mitigate, by their means, your patient's sufferings. The inquiry is one not very easy to reply to satisfactorily. I think, however, that there are two conditions under which you would be justified in trying the experiment of giving them. Sometimes the disease sets in with great excitement, and a condition closely resembling mania in the adult, symptoms which may have been ushered in by convulsions. In such a case, although the heat of head and the flush of the face may have disappeared after free depletion, and the copious action of purgative medicine, and though the pulse is feeble as well as frequent, yet the excitement may be scarcely, if at all, diminished. Here an opiate will sometimes give the relief which nothing else would procure. Your patient will fall asleep, and wake tranquillised in the course of two or three hours. In other cases which did not set in thus violently, restlessness, talkativeness, and a kind of half delirious consciousness of pain in the head become very distressing as the disease advances, being always aggravated at night, so that your patient's condition seems one of constant suffering. But he is not able to bear any more active treatment, and, indeed, you have already emptied your quiver of such weapons. Under these circumstances, I have sometimes given a full dose of morphia, and have continued it every night for several nights together with manifest relief.

Another inquiry that you may put is, when are you to employ blisters? Certainly not at the beginning of the disease, when they would increase the general irritation, and do more harm than good. At a later period they may be of service, when the excitement is about to yield to that stupor which usually precedes the state of complete coma. They should then be applied to the nape of the neck, or to the vertex; and I am disposed to think the latter the better place, since, when applied to the neck, they often become displaced by that boring movement of the head which the child in many instances keeps up unconsciously. It is well, too, to remember that the skin, in hydrocephalus, is very inapt to vesicate, so that a blister will require to be kept on for ten or twelve hours—contrary to what ought to be your practice with children. Cases enough are on record, proving the utility of blisters thus applied, to render it your duty not to neglect this means.

Need I say that you must not think of treating a case of hydrocephalus throughout just in the same way as you did at its commencement. There is, if the disease do not run a very rapid course, a stage of weakness and exhaustion, often associated with a half comatose condition, though sometimes attended with a considerable degree of suffering, which frequently precedes the sign of approaching death. The bowels are now sometimes relaxed, though oftener they continue constipated, because the nervous energy which kept up the peristaltic

movements of the intestines is worn out. The powers of organic, as well as animal, life are palsied. This is the time for the administration of quinine, for the employment of nutritious broths and jellies, and even of wine.

ART. 98.—*On the Symptoms and Treatment of Spasm of the Glottis.* By CHARLES WEST, M.D.

(*Medical Gazette*, Feb. 11, 1848.)

[The following remarks are extracted from one of Dr. West's valuable Lectures on the Diseases of Infancy and Childhood.]

Spasm of the glottis, which term I select as the simplest among many appellations that the disorder has received, usually comes on by degrees, and it is but seldom that its early *symptoms* are such as to excite the alarm of unprofessional persons. It does not often occur in perfectly healthy children, but an infant who is attacked by it has usually been observed to be drooping for some time previously, to have lost its appetite, to have become fretful by day and restless at night, and to present many of those ill-defined ailments which are popularly ascribed to teething. At length, after these symptoms have continued for a few days or weeks, a slight crowing sound is occasionally heard with the child's respiration. The sound is something between the hoop of hooping-cough and the stridor of true croup; it must be heard to be known, but when once heard is easily recognised. Usually it is just noticed on the child awaking out of sleep, but sometimes it is perceived during a fit of crying, or comes on while the infant is sucking. Now and then the first crow is very loud, and, by its resemblance to the sound of croup, at once alarms the family, but this is not generally the case; and its loudness increases in proportion as its return becomes more frequent. The spasm may have been excited by some temporary cause, and the sound which is its token may in that case not be heard again, but generally it returns after the lapse of a few hours or a day or two. It will soon be found, as its return becomes more frequent, that excitement induces it, or deglutition, or the effort of sucking, so that the child will suddenly drop the nipple, make a crowing sound with its breathing, and then return to the breast again. Throughout the whole course of the affection its attacks will be found to be more frequent by night than by day; and to occur mostly either soon after the child has lain down to sleep, or towards midnight, when the first sound sleep is drawing to a close.

At first the child seems, during the intervals of the attack, in as good health as before, except, perhaps, that it is rather more pettish and wilful; but it is not long before graver symptoms than the occasional occurrence of an unusual sound with inspiration excite attention, and give rise to alarm. Fits of difficult breathing occasionally come on, in which the child throws its head back, while its face and lips become livid, or an ashy paleness surrounds the mouth, slight convulsive movements pass over the muscles of the face, the chest is motionless, and suffocation seems impending. But in a few seconds the spasm yields, expiration is effected, and a long, loud, crowing

inspiration succeeds, or the child begins to cry. Breathing now goes on naturally, the crowing is not repeated, or the crying ceases; a look of apprehension dwells for a moment on the infant's features, but then passes away; it turns again to its playthings, or begins sucking again, as if nothing were the matter. A few hours, or even a few days, may pass before this alarming occurrence is again observed, but it does come, and another symptom of the disturbance of the nervous system is soon superadded, if it have not, as is sometimes the case, existed from the beginning. This consists in a peculiar contraction of the hands and feet; a state which is likewise not unfrequently observed during infancy, without any spasmodic affection of the respiratory organs. It differs much in degree; sometimes the thumb is drawn into the palm by the action of its adductor muscles, while the fingers are unaffected; at other times the fingers are closed more or less firmly, and the thumb is shut into the palm; or, coupled with this, the hand itself is forcibly flexed on the wrist. In the slightest degree of affection of the part, the great toe is drawn a little away from the other toes; in severe degrees of the affection, this adduction of the great toe is very considerable, and the whole foot is forcibly bent upon the ankle, and its sole directed a little inwards. Affection of the hand generally precedes the affection of the foot, and may even exist without it, but I have never seen spasmodic contraction of the feet when the hands were unaffected. At first this state is temporary, but it does not come on and cease simultaneously with the attacks of crowing inspiration, though generally much aggravated during its paroxysms. Sometimes a child in whom the crowing inspiration has been heard, will awake in the morning with the hands and feet firmly flexed, although he may not have had any attack of difficult breathing during the night. At other times, though but seldom, this state will subside during sleep, while very often it is impossible to assign any reason for its cessation or return. The hands may be often unflexed by bending the fingers; but they resume their former position on the withdrawal of the force, and such attempts are painful to the child. Coupled with these carpo-pedal contractions, the back of the hands are sometimes swollen and livid, and occasionally there is slight puffiness about the face: in one case there was general anasarca.

The general condition of the child varies much during the existence of these symptoms, but it is always widely removed from health. The bowels are almost invariably disordered, constipation being more frequent than diarrhœa. Death sometimes takes place during one of the paroxysms, either by suffocation, or from the often-repeated difficulty of breathing, inducing a state of permanent congestion of the brain; general convulsion occurs, and the child dies comatose from serous effusion. Should the child escape these dangers, and no tubercular disease of the lungs or bronchial glands exist, recovery is almost sure to take place eventually.

[The causes which produce the nervous disturbance upon which the above symptoms depend, are laid down upon the system devised by Dr. Marshall Hall. The irritation, therefore, is stated to originate—1st, in the *trifacial*, in teething; 2d, the *pneumogastric*, from improper feeding; 3d, the *spinal nerves*, in intestinal disorder. These act through

the medium of the *spinal marrow*, and the *inferior* or *recurrent laryngeal nerve*, and the *intercostals*. Respecting the great prevalence of irritation from dentition, Dr. West observes:]

The great share which dental irritation has in its production is shown by the age at which it generally occurs. Of 27 cases, 21 occurred in children between the ages of six months and two years. . . . . The various sources of irritation are not, however, limited to the period of dentition; hence the disease may be met with before the commencement of the process, as well as after its completion. I have seen it in a child ten weeks old, as a consequence of improper feeding; in another, aged nineteen months, it followed the sudden suppression of long-continued diarrhœa; in a third, two years and a half old, it appeared to depend on cerebral congestion, the consequence of habitual constipation.

But, besides those cases in which spasm of the glottis is induced by irritation set up in some distant part, there are others in which the exciting cause is situated near the larynx. Dr. Hugh Ley observed several instances of the kind, in which the attack appeared to be due to the presence of enlarged and tuberculous cervical and bronchial glands.

The treatment of spasm of the glottis must be regulated by the nature of the exciting cause; and this, as has already been stated, varies much in different cases. In infants before dentition, it is usually induced by over-feeding, or by food of an improper kind. Our inquiries must, therefore, be at once directed to ascertain how the infant is fed, and supposing it to be still at the breast, other food must be interdicted. Spasm of the glottis, however, occurs much oftener in infants who are brought up by hand, or in those who have been weaned, than in children at the breast. In such cases, much pains are sometimes necessary, in order to ascertain precisely the kind of food that best suits the infant. Two parts of milk and one of barley-water, sweetened with a little loaf-sugar, or equal parts of milk and a solution of isinglass, made of the thickness of barley-water, generally agree very well; but much caution must be used in the introduction of farinaceous articles into the child's diet. Asses' milk, which forms the nearest approach to its natural food, must sometimes be given till the child has decidedly improved; while, if it be puny, and do not appear to thrive, and the crowing inspiration continue undiminished, it may become absolutely necessary to restore it to the breast.

The state of the bowels requires no less attention than the regulation of the diet. The tendency to constipation must be combated, not by drastic purgatives, but by mild aperients. Castor oil often answers the purpose very well, but sometimes each dose of it nauseates a child for several hours, and then it is not desirable to employ it, if a daily aperient should be needed. Both senna and manna are apt to gripe, and if they be found on trial to have this effect, their use must not be persevered in. Few medicines act more mildly or more certainly in children than aloes; and the bitter of the compound decoction may be much concealed by extract of liquorice. The bulk of a medicine, however, often opposes a great difficulty to its employment in infancy, and, if that be the case, the powder may be substituted for the decoction. If slightly mois-

tened, mixed with a little coarse sugar, and placed on the tongue, it will often be swallowed very readily. The habitual use of mercurials to overcome the constipation is not desirable; their employment is better limited to those cases in which the bowels are not only sluggish, but the evacuations unnatural in character.

The action of the bowels may be encouraged by rubbing the abdomen twice a day with a liniment composed of equal parts of soap liniment and tincture of aloes; or the bowels may sometimes be induced to act regularly in young infants by the daily employment of a small soap suppository. Enemata may also be employed for the same purpose, consisting either of warm water or gruel.

Sedulous attention to the diet and to the state of the bowels will sometimes effect a cure, but in many instances tonics may be employed with advantage, and probably none with such decided benefit as the preparations of iron. Removal to the pure air, however, or to the sea-coast, is often a tonic of greater power in these cases than all the contents of the laboratory, and one which you will find in some instances to be absolutely indispensable to the child's cure.

All these cares are not less needed in children in whom the process of dentition has already commenced. In them, however, the irritation of teething is often the exciting cause of the affection, and lancing the gums is frequently needed, in addition to the other treatment. The relief thus afforded is sometimes very striking, and the frequent repetition of the process may be necessary to diminish the swelling and tension, and to ease the pain of the congested gum. It is not, however, a proceeding to be adopted irrespective of all other considerations, simply because the child had begun to cut its teeth when the attack of spasm of the glottis came on. Dentition does not go on continuously from the time when the first tooth is cut until the completion of the whole set; but there are regular pauses in the process, during which its advance is suspended for several weeks together. Thus, for instance, after the appearance of the incisions, there is a pause of several weeks or months before the first molar teeth appear, and then there is another cessation in the process before the child begins to cut its canine teeth. The spasm of the glottis, therefore, may come on during these pauses, and may be excited by some cause quite unconnected with dentition. Lancing the gums, too, is not well borne in every case, even when it may have appeared to be indicated, and I have more than once been compelled to discontinue it, on account of the pain and alarm which it excited bringing on a violent spasmodic seizure whenever I attempted to practise it.

In some instances the spasm of the glottis is associated with manifest uneasiness in the head. It has been suggested that in some of these cases the brain is kept in a constant state of irritation, owing to the deficiently ossified skull being too thin to defend it from injury, while, at the same time, it affords no adequate counter-pressure to check the over-distension of the cerebral vessels. I have seen one case that seemed to lend decided support to this opinion; and many others have come under my notice, in which the recommendation that a horsehair cushion should be made for the head to rest on, having a hole in its centre, so as to relieve the occiput from all pressure, has been acted on

with manifest advantage. The supervention of attacks of spasm of the glottis, in a case of well-marked chronic hydrocephalus, would call for little change in the treatment, though it must evidently add much to the danger of the patient.

Symptoms of cerebral congestion are sometimes associated with this condition. They are seldom such as to call for active interference, but the tepid bath and neutral salines, with small doses of hyoscyamus, are often of much service in quieting the general excitement of the circulation, while the occasional application of a leech to the head may be beneficial, especially if general convulsions are beginning to supervene on the attacks of dyspnœa.

It is possible you may meet with a case in which active depletion is indicated, and under such circumstances you must not allow the consciousness that, as a general rule, it is inappropriate to prevent you from having recourse to it in such exceptional cases.

In the paroxysm itself but little can be done. Cold water may be dashed on the face, and the fauces may be irritated, or the finger passed down into the pharynx, so as to bring on, if possible, the effort to vomit, while at the same time the legs and lower part of the body may be placed in a hot bath.

Art. 99.—*Symptoms of Infantile Phthisis.* By Dr. West.

(*Medical Gazette*, March 24, 1847.)

The symptoms of phthisis in early life resemble, in many respects, those which characterise the disease in adult age, while the points of difference become less distinct as the child grows older, and cease altogether at puberty. During childhood, hæmoptysis is seldom witnessed at any stage of the affection; expectoration is rare, and the cough and colliquative sweats are comparatively slight. In many instances the child droops, loses its appetite, flesh, and strength, and complains of vague pains in the chest for many weeks before the cough excites any apprehension as to the seat of the disease. When the cough does comes on, it is slight, short, and dry. The usual amusements fail to occupy the child, who sits about listless and fretful in the daytime, while the skin often grows dry and hot, and the lips become parched as night approaches; but there is so little definite in these symptoms, that they are not unfrequently supposed to indicate the existence of remittent fever, or to be due to the presence of intestinal worms.

It is of importance to bear in mind, that strumous dyspepsia is more frequent in childhood than in adult age, and that its symptoms may be all that marks the advance of phthisis until within a month or two of the patient's death. A definite commencement can almost always be assigned to an attack of remittent fever; and the great heat of skin, the rapid pulse, intense thirst, and delirium at night, are symptoms which will prevent our mistaking for it those slighter ailments which are experienced during the first stage of phthisis. The referring the symptoms of incipient consumption to the presence of worms, is a mistake even less excusable.

Fluctuations take place in the child's condition, and a casual attack

of bronchitis often seems to be the exciting cause of the aggravation of the pulmonary symptoms. The respiration now becomes habitually quicker than natural, and is often attended with wheezing; the cough grows more frequent, and lasts longer; but is still, in most instances, unattended with expectoration, owing to the circumstance that the child swallows those matters which an adult would spit up. The loss of flesh and decay of strength advance even more rapidly than the signs of pulmonary disease. Towards the close, the mouth becomes aphthous, especially in infants; but the alternation of diarrhœa and hectic sweats seldom or never takes place in the child.

In *bronchial phthisis* the symptoms deviate still more from those usually observed in the adult. Bronchial phthisis occurs in its best marked form between the ages of two and six years. Its symptoms, in many instances, first become distinct after some severe bronchitic affection, which either accompanied measles, or came on without apparent cause. By degrees the cough thus established becomes severer, returning in paroxysms not unlike hooping-cough. The respiration grows oppressed and wheezing; the face puffed and swollen; the veins of the neck appear distended, just as in patients with heart disease, and the superficial veins of the thorax become enlarged, as those of the abdomen do in ascites and mesenteric disease.

The fatal termination of bronchial phthisis usually takes place in consequence of the lungs being seriously involved in the tubercular disease, though life is sometimes suddenly cut off by hemorrhage.

[The author completes his account of the symptomatology of infantile phthisis by a lucid description of the difference in other auscultatory phenomena. We regret that we have only space for his recapitulation of the general characteristics, including those afforded by auscultation. The chief of these are:]

1. The frequent latency of the disease in its early stages.
2. The almost invariable absence of hæmoptysis.
3. The partial or complete absence of expectoration.
4. The rarity of profuse sweats.
5. The frequency of death from intercurrent bronchitis or pneumonia.

The most important peculiarities in the auscultatory phenomena are—

1. The smaller value of coarse respiration, prolonged expiration, and interrupted breathing.
2. The apparent or real exaggeration of both early and advanced disease of the lungs in some cases of bronchial phthisis.
3. The loss of the information to be derived from the phenomena of the voice.
4. The difficulty of detecting minute variations in the sonoriety of the chest.
5. The existence of dullness in the interscapular regions, together with moderate resonance in the upper parts of the chest, and tolerably good respiration there, which are characteristic of enlarged bronchial glands.

Art. 100.—*Symptoms and Treatment of Infantile Pleurisy.* By Dr. West.

(*Medical Gazette*, Dec. 24, 1847.)

The main symptoms attending this disease, as well as the *physical signs* of its existence, are the same at all ages. There are, however, some circumstances peculiar to early life, which, unless you are on your guard, may serve to obscure the real nature of the affection. The history of a case of acute pleurisy in childhood, is generally something to this effect: a child, previously in perfect health, is suddenly attacked with pain referred to the chest or upper part of the abdomen, so severe as to occasion it to cry aloud, perhaps attended at first with vomiting of a greenish fluid, accompanied with fever, a rapid pulse, and hurried respiration, interrupted by frequent short cough, which evidently occasions pain, and which the child labours in vain to suppress. After a few hours, the severity of the pain subsides; but the fever, hurried respiration, and cough continue, and the child, though usually it looks heavy and seems drowsy, yet becomes extremely restless at intervals, and cries and struggles as if in pain, and violently resists any attempt to alter its position, since every movement brings on an exacerbation of its sufferings. The posture which it selects varies much; sometimes its breath seems disturbed in any other than an upright position; at other times it lies on its back, or on one side; but, whatever may be the posture, any alteration of it appears to cause much distress, and is sure to be resisted by the patient.

The probabilities are, that if you auscultate the chest of a child in whom these symptoms exist, you will have good breathing through the whole of one lung. On the other side, the air will be found most likely to enter less freely, though unaccompanied with any moist sound, perhaps unattended with any morbid sound at all; or there may be on this side, a rough sound audible like a rhonchus, and for this you may very likely at first take it, though with more attention it will be discovered to be a friction-sound. A day or two later, you will probably detect a sound like that of bronchial breathing, as you pass your ear from above downwards along the posterior part of the chest, while the friction-sound will have disappeared; and still lower there will be an utter absence of all sound. The walls of the side of the chest, if their tenderness does not prevent you trying percussion, will yield a much less resonant sound than usual; while at the same time a distinct sense of solidity will be communicated to the finger.

I need hardly pursue the detail of other symptoms which are the necessary result of pleurisy, whatever the age of the person in whom it occurs. The diminished mobility of the affected side, the displacement of the heart, the bulging of the intercostal spaces, and the enlargement of the chest on the diseased side, are phenomena that take place under the influence of the same causes at every age, though their occurrence is less frequent in childhood than in adult age, since the effusion of fluid is more scanty.

The symptoms by which an attack of pleurisy is ushered in, point sometimes rather to the head than to the chest. The child is seized with vomiting, attended with fever and intense headache; it either cries aloud, or is delirious at night, or screams much in its sleep, and, when morning comes, complains much of its head, but denies having any pain whatever in its chest, while the short cough and the hurried breathing may be thought to be merely the result of the cerebral disturbance. The diagnosis of cases of this kind, is sometimes very difficult, since auscultation does not always afford the information you might expect. It often happens that no friction-sound is perceptible, and that you have no other indication to guide you aright besides the feebleness of the respiratory murmur on the affected side. The child, too, fearful to take a deep inspiration, fills neither lung completely, so that to a great degree you lose the information gained by the comparison of the breathing in one lung with that of the other. Still, the history of the case will do much towards preserving you from error. The onset of the illness has been too acute, attended with far too much febrile disturbance, for a case of tubercular hydrocephalus, while many of the signs of cerebral mischief which might be expected in a case of simple encephalitis have not presented themselves. The heat of head is not greater than that of the rest of the surface; the cries with which the disease set in have not ended in coma. It happens but seldom that convulsions mark the commencement of the disease; but, if they had occurred at the onset, they have not since returned; neither twitching of the muscles, nor strabismus, nor retraction of the head is present; and, though the child may cry, as children when ill and fretful often do, at the curtain being undrawn and the candle brought near it, yet there is no real intolerance of light. The dyspnœa, also, is too permanent, and the short, hacking cough too frequent, for either to be sympathetic of cerebral disorder.

The pain with which pleurisy sets in is sometimes referred not to the chest but to the abdomen, and its commencement may be attended with vomiting and purging. Pressure on the abdomen, too, often causes a considerable increase of suffering, and you may thus be led to regard the case not as pleurisy, but as intestinal disorder, with fever. In any such doubtful case, it is well to bear in mind that children may, after they can talk, describe the nature and seat of their sufferings very inaccurately; and if, as often happens in these cases, they refer the pain to the right hypochondrium, you should not forget that pain in that situation is at all ages much oftener connected with disease of the pleura than of the peritoneum; and, lastly, that the increase of discomfort produced by pressure on the abdomen, may have been due to the additional impediment thereby offered to the already labouring respiration.

In most cases of pleurisy in childhood, careful auscultation will preserve us from error. Still the information that it yields is more limited in the child than in adult age. The evidence afforded by the various modifications of the voice-sound are much less marked, owing to the feebleness of the voice in early life, while we cannot induce the child to speak several sentences or utter several words in

the same pitch of voice, in order that we may find how far the voice is altered. For the same reason, too, we cannot test the difference between the two lungs by the vibration of the voice perceived on applying the hands to either side of the chest—a means by which, in the adult, we are often assisted in determining between a solidification of the lung from pneumonia, and the distress consequent on pleurisy with effusion. Another circumstance which, in the child, increases the difficulty of distinguishing between pleurisy and pneumonia is, that in the latter, children sometimes inspire so slightly as not to produce any crepitation, so that in both cases we may have impaired resonance on percussion, with scanty admission of air, and a bronchial character in the respiration, but without any other morbid sound. In the child, too, we lose the very valuable information which the presence of the expectoration in the pneumonia of grown persons affords, when contrasted with the absence of all expectoration as an attendant on the dry cough of pleurisy. With the advance of the disease, doubt as to its nature is removed; it is at its commencement only that mistake is possible. But even then, and in spite of all the circumstances which have been enumerated as tending to mislead, you will seldom be wrong if you regard as an instance of pleurisy any case in which symptoms like those of pneumonia having set in suddenly and severely, auscultation fails to detect the crepitus of pneumonia, and discovers only feebleness of the respiratory murmur on one side, with or without a more or less marked bronchial character in the breathing.

But we may now pass to the consideration of the *treatment* of acute pleurisy in childhood, a subject which need not detain us long, since the age of the patient in no respect alters the principles which must guide our conduct. If seen sufficiently early, and treated with due activity, cases of acute pleurisy in infancy and childhood nearly always have a favorable termination, and in almost every instance that has come under my observation in which the issue of the disease was unfortunate, either all treatment had been neglected till the children were past hope, or the nature of the complaint had been mistaken, or the treatment followed had not been sufficiently active. This last error it is of great moment to avoid, for acute inflammation of the pleura in childhood runs its course with greater rapidity to a more speedy fatal issue than in the adult. Of seven fatal cases of acute pleurisy in childhood, of which I have preserved a record, three ended in death on the sixth day, one on the ninth, one within a fortnight, while one of the remaining two terminated in thirty days, and the life of the child in the seventh case was prolonged for several months.

In almost every case, provided the symptoms be at all urgent, and the child's previous health have been good, general depletion should be resorted to, and you need not be afraid of carrying this first bleeding to syncope, since children generally faint after the abstraction of a comparatively small quantity of blood from the arm. It will be almost always necessary to follow this up by local bleeding, but it is desirable to wait for three or four hours, in order that you may be

enabled to estimate the effect produced by the previous venesection. A second bleeding from the arm is seldom needed, and may almost always be avoided if local depletion be not too timorously practised. In the acute stage of pleurisy it is better to draw the blood by leeches than by cupping, since the side is often so tender that the pressure of cupping-glasses would be unbearable. After depletion, one chief reliance is to be placed on calomel, which should be freely given in combination with opium or Dover's powder. Antimony, which often renders us such good service in pneumonia, is here of little use; and though it may somewhat diminish the frequency of the breathing, it exerts little or no influence upon the local mischief. A pleurisy treated thus actively, is sometimes overcome in the course of 24 or 48 hours, so that nothing remains of symptoms which had appeared so formidable. Often, however, after the acute symptoms have subsided, the affected side remains dull, and the respiration scanty for weeks together, and now is the time when the use of blisters, associated with the exhibition of small doses of calomel, will be of most essential service, and will generally effect the complete absorption of the fluid, and the restoration of the patient to perfect health.

This, however, is not always the case; but sometimes, in spite of remedies perseveringly employed, one side of the chest continues full of fluid; and the question then comes before us whether it will not be expedient to let out that fluid by mechanical means. Many most important considerations are, as you know, involved in the question of performing paracentesis of the chest; but the indications for its performance are the same in the child as in the adult; while my own experience would lead me to conclude that cases in which the operation is necessary are of very rare occurrence in early life. (See Report.)

Art. 101.—*On Atalectasis Pulmonium.* By Dr. West.

(*Medical Gazette*, Oct. 22, 1847.)

[Imperfect expansion, or partial persistence, of the fœtal condition of the lungs after birth, is a condition which has only recently attracted attention; and we therefore avail ourselves of the present opportunity of laying a succinct account of the affection before our readers. Dr. West observes that it presents itself under two different circumstances:—]

1. As a congenital condition; a more or less considerable portion of the lung never having been penetrated by air.

2. As an acquired condition; portions of lung which were once freely traversed by air ceasing to admit it, not from alteration of structure, but from simple collapse of the pulmonary tissue.

If the body of a newborn infant, or one which has survived its birth but a few days, be examined, patches of lung of a dark red colour, and depressed below the surrounding tissue, are sometimes found. These darker portions, which exactly resemble fœtal lung, are solid to the touch, do not crepitate, and sink in water. They are not friable, and their cut surface is perfectly smooth, like that of muscle. . . . . It is

usual to find, in connexion with this state of the parenchyma of the lungs, that the pulmonary vessels contain less blood than usual, that the foramen ovale is unusually open, and the ductus arteriosus imperfectly closed. Sometimes bronchitis attacks a lung thus affected, and there is then often a state of congestion of the lungs which renders the contrast between the collapsed and the healthy lobules less striking.

Cases in which this condition of the lung exists usually present the history of the child having been stillborn, and though resuscitated after a time, yet still never crying loudly like other children. Even after breathing has gone on for some time, such children appear feeble; and though they have attained the full term of fœtal life, yet they can scarcely suck. An infant thus affected sleeps more than newborn infants generally do; its voice is more feeble; and the chest is little, if at all, dilated by the respiratory movements. The temperature falls, the skin becomes pale, and the lips grow livid. The difficulty of sucking increases; the voice grows weaker and more whimpering, or even altogether inaudible; while respiration is attended by a slight râle, and convulsive movements occur frequently. Any sudden movement suffices to bring on the convulsive movements; but even when perfectly still, the child's condition is not uniform, but it will become suddenly convulsed, and during the seizure the respiration will be extremely difficult, and death will seem to be impending. In a few minutes, however, all disturbance ceases, and the extreme weakness, inability to suck, and its feeble voice are the only abiding indications of the serious disorder under which the child is suffering. Death usually takes place at the end of a few days, or weeks.

[The treatment of this condition is laid down by Dr. West as follows:—]

The importance of maintaining an equable temperature around every child in whom respiration is not duly performed, cannot be too much insisted upon, and this temperature ought to be below 70°. Benefit often accrues from the use of the warm bath at 100°. The child should not be allowed to remain longer than five minutes in the bath, and should be immediately enveloped in hot flannels. The back and chest should be rubbed once or twice a day with a stimulating liniment. If the child be very feeble, stimulants may be given, as the compound spirit of ammonia, in milk. The daily employment of a gentle emetic has, in some instances, appeared to be of service—not merely by relieving the air-tubes of any mucus that may have accumulated there, but by inducing deep inspiration, and thus aiding the more complete establishment of respiration. As the child improves, tonics may be substituted for direct stimulants. The child should be put to the breast, unless it be very feeble; but in this case it ought not to be allowed to exhaust its strength in fruitless attempts to suck. It will be better to draw the breast, and give the milk by a spoon. This plan must be persevered in; nor must the supervention of symptoms of an apparently acute character induce too wide a deviation from it.

ART. 102.—*On the Diagnostic Value of Tears in Infantile Diseases.* By M. TROUSSEAU.—The author states as a general rule, that when the infant sheds tears it is not dangerously ill; and, on the contrary, the absence of weeping indicates a severe disease. He regards this to be so true as to deserve to be considered as an aphorism. He does not deny, however, that there may be exceptions.

Gazette des Hôpitaux, and *Revue Méd.-Chirurg.*, Jan. 1848.

REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES,

January—June 1848.

The intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

The figures in the parentheses refer to corresponding articles in the ABSTRACT.

PART I.—GENERAL PATHOLOGY.

§ I.—*Diseases of the Blood.*

1. *Scurvy.*—Having devoted considerable space to this disease in our last Report, it is not our intention to do otherwise than allude briefly to communications upon the same subject, which have subsequently appeared.

In an important communication by Dr. Garrod,* the author endeavours to show, and with much appearance of truth, that the proximate cause of scurvy is a deficiency in the salts of potash contained in the blood. He has further determined, that, in all the dietaries of scorbutic patients, potash has been deficient; and, conversely, that in those aliments which are found to be beneficial in the disease, that salt exists in large quantities. As a practical fact, elicited by his researches, he states that scorbutic patients may be restored by the simple addition of potash to their diet, without other alteration. This communication is made in a philosophical spirit, and merits the attention of the political economist no less than of the physician.

A Report on scurvy, as it appeared on board an American vessel of war has been furnished by Dr. Fortz,† a surgeon in the United States navy. It contains neither facts nor deductions which offer any features of novelty, but both of which serve to confirm the opinions expressed in our former Report, of the important part played in the causation of the disease, by the deprivation of fresh vegetables combined with extra labour and deficient ventilation. The author particularly insists upon the value of the potato as an antiscorbutic, thus agreeing with several writers mentioned in our last volume.

§ II.—*Zymotic Diseases.*

2. *Fever, Epidemics of.*—The past year has, as our readers are well aware, been signalised by the almost universal occurrence of outbreaks of fever, varying in intensity, but, for the most part, exhibiting a malignity which has been followed by unprecedented fatality. Independently of the interest which attaches to these fearful visitations as matter of scientific reflection, the recent epidemic may claim a deeper hold upon our minds, of another character, arising from the awful ravages committed among our own ranks, and the consequent sacrifice of every worldly comfort to hundreds of those helpless ones in whom we ought all to take a personal interest. In perusing the weekly obituaries of our brethren, in Ireland more especially, it is painful to observe for how paltry a remuneration these martyrs to science and humanity have been made to stake their own lives—their children's fortune; and, in spite of the unworthy motives attributed to their reception of the pittance by the

* Monthly Journal of the Medical Sciences, Jan. 1848.
† American Journal of the Medical Sciences, Jan. 1848.

editor of an Irish Medical Journal, the conviction is forced upon us that these noble-minded men thought it due to the character of their profession, rather, though unrewarded, to minister to the disease and death around them, than to condescend to higgle, in the hour of danger, for an increase of pay.

Histories have been furnished of several of these epidemics, or rather of the same epidemic as it appeared in different localities, of the principal of which we purpose to give a brief analysis.

Dr. Paxton,* of Rugby, describes fever as it appeared in a mild form in that neighbourhood. It is stated by him to have been generally preceded by diarrhœa, and to have rarely been fully developed when that symptom was judiciously treated. The febrile symptoms are said to have declared themselves under three degrees, and were recognised as follows:

[illegible] countenance expressed stupefaction; chills followed by heat occurred e[illegible]half hour, with headache, quick pulse, furred tongue, epigastric pain, loaded urine, &c. These were the symptoms of the milder form, and soon subsided. If, however, the noxious influence had been more decided in its effects, the second degree of fever was observed. This differed from the first, chiefly by its greater intensity. The patient, at the early stage, had a deep flush on the cheek, alternating with paleness; dry skin; thirst; thick, drab-coloured secretion covered two thirds of the tongue; the pulse rapid, i. e. from 110 to 130; urine turbid. Uniformly there was a certain amount of cerebral disturbance, indicated by moaning or crying out, with sudden sharp pains. A restlessness and delirium existed in most cases, and led one to suspect meningitis. After the subsidence of the latter symptoms, marked pervigilium was observed, which was followed by unusual torpor.

The third degree exhibited the common characteristics of typhus.

In referring to the treatment of this epidemic, Dr. Paxton takes occasion to criticise the opinion that wine, and a cordial plan of treatment is necessary in fever, and illustrates his position by the detail of cases in which michief was supposed to have arisen from this practice. He proceeds to state, that the successful treatment of this epidemic depended on the strictest attention to regimen; errors in diet were fatal. All kinds of stimuli had the effect of increasing arterial action, congestions, and cerebral disturbance. It was only in the stage of *perfect subsidence* of the malady, that wine could be taken with impunity. He remarks that he had often to regret the permission he had given to use wine at too early a period. The most mild species of nutriment were the best for the patient. Time after time has he known a generous diet, such as beef-tea and wine, to derange the viscera, and to have a direct tendency to excite organs already too much excited by febrile phenomena, and the consequences were invariably a correspondent depression of the vital powers. The principle which suggests wine, and the highest nutriment in low fever, in theory is, he says, plausible enough. "To oppose what was esteemed strength to weakness, is a theory which readily gains an ascendancy in the minds of those who are ignorant of the management of diseases. They are haunted by the single perception of *debility*, but the exhibition of wine, to counteract the debility, only involved the patient in additional dangers. At the advanced stage of fever, wine is the medicinal extreme unction for the patient's dismissal. In the earlier stages, it may be symbolized by the golden cup filled with abominations." There could be no compromise, he observes, between wine and the Rugby fever. It was not long before he found, that either the nature of the fever, or the peculiar habit of persons in this locality, would not allow of the administration of stimulants without decreasing the chances of recovery.

These remarks respecting the use of wine in fever, are certainly not in

* Prov. Med. and Surg. Journal, Nov. 3, 1847.

accordance with the opinions of the best authorities, and differ widely from the views expressed in the following communication by Mr. Bree, of Stowmarket.

Mr. Bree gives the history of an epidemic fever as it was witnessed in the parish of Finborough, in Suffolk, the account of which embraces points of great interest, more especially as respects the disputed point of contagion, the operation of which on the cases in question he establishes beyond the possibility of doubt. In the treatment of the disease he exhibits a full acquaintance with what we believe to be the most satisfactory therapeutics of fever at present known. The indications he kept in view were:

1st. To obviate *the effects* of local congestion, and of what he believes to be in fever *altered* blood; *which effects*, again, he believes we see in or *about* the capillary system, or in ulceration of Peyer's glands, &c.; and,

2d. To prevent his patients from dying by asthenia; to keep them, in fact, alive.

The first indication he attempted to fulfil by the use of the pulvis sodæ comp. of Guy's Hospital, a most useful medicine in these cases. It is composed of carbonate of soda, compound chalk powder, and calomel; sixteen grains contain one grain of calomel. Of this he gave from five to twelve grains every four hours, with or without a solution of the carbonates of soda and ammonia.

The second indication he endeavoured to fulfil by the administration of port wine, with or without brandy, in large quantities.

In the cases he has detailed there were frequently abdominal and thoracic complications; in one case there was decided pneumonia, but he did not on this account omit the wine, though he pushed on the mercury. He was equally regardless of delirium, which is, probably, always an effect of innervation in these cases; and of the dry tongue. Whenever he found unequivocal indications of debility, as evidenced by a quick, thready, irritable pulse; *trembling*; sordes about the mouth and teeth, &c., he invariably gave wine. The result of the cases related fully bears out the propriety of the practice.*

The fever which has recently prevailed in and about Kilkenny has been described by Dr. Lalor† under the name of "gastro-enteric fever," derived from the prominence of gastric and intestinal symptoms. The invasion of this form of fever was sudden, setting in, in general, with rigors, followed by delirium or dullness of intellect, vomiting, diarrhœa, pains in the joints, &c. After the continuance of these symptoms for six or eight days, the fever usually subsided. The relapses, which were frequent, and often fatal, assumed one of four forms:

1. Pyrexia, attended with severe pains, similar to rheumatism, often terminating favorably in from three to seven days. 2. Pyrexia, with distressing nausea, and vomiting of a grass-green fluid; prostration; cold, clammy skin, &c. 3. A combination of the two preceding forms. 4. A species of protracted fever, with nausea, irregular bowels, and variable pulse; termination usually favorable.

In 1845 a purpuric eruption began to be a concomitant of the fever. In the spring of 1846, this combination became more general, the fever at the same time putting on a more typhoid type with diarrhœa, general œdema, and gangrene. The eruption generally appeared first on the upper part of the chest, subsequently on the abdomen and extremities, seldom on the face. In bad cases there were large distinct bullæ filled with a bloody serum. The gangrene usually appeared in the mouth, the pudenda, or anus; bad sores and gangrene of the extremities were rare.

The treatment followed by Dr. Lalor in this fever was, in the first instance,

* Prov. Medical and Surg. Journal, April 15, 1848.

† Dublin Quarterly Journal, Feb. 1848.

expectant. In collapse, external warmth and stimulants were employed. Blisters were found useful for the præcordial pains, but leeches and depressing diaphoretics were ill borne. In the relapses, a stimulating treatment was imperatively called for.

The post-mortem appearances in fatal cases of this fever were chiefly remarkable in being associated with or produced by purpurous extravasations, similar to those on the skin. These were found on the peritoneum, pleura, mucous membrane of the stomach, intestines, and bladder. Apoplectic effusions were also found on the lungs and in the substance of the muscles. On the mucous surfaces these blotches terminated in ulceration, which were of two kinds, one small and circular, with a disposition to granulate, the other sloughy, with fungous granulations similar to the spongy sanies of scorbutus. The liver was of normal size, mottled and friable; the spleen was generally enlarged; the kidneys sometimes presented purpuric spots; the heart's substance generally softened.

In alluding to the causes of this epidemic, Dr. Lalor hesitates to attribute it entirely to the effects of famine; but he admits that the purpuric or scorbutic character was associated from the date of the failure of the potato crop, and increased as destitution advanced. The fever appeared to be decidedly contagious.

Mr. Bottomley, of Croydon, has also published an account of fever as it appeared among the Irish labourers who had come into that part of the country to get up the harvest. The type of fever is shown to be the "simple continued," with tendency to typhoid depression. The writer states that there was no reason to believe it infectious, unless in the event of close crowding of the patients and inattention to ventilation.*

Lastly, Dr. Orr has furnished an historical and statistical sketch of the epidemic fever in Glasgow; and, amongst other useful information, gives a vivid picture of the dangers which were encountered by the medical attendants. In one parish alone, seven out of seventeen surgeons took fever, three of whom died. In another district, containing seven surgeons, three perished. In all, no fewer than 117 persons, engaged in attending fever patients, contracted the disease, of which number 30 were ascertained to have died.†

3. *Cold-water Treatment of Fever.*—Dr. Nevins‡ confirms the advantages said to be derived from the treatment of fever mentioned in our former volumes (V, art. 2; VI, art. 1.)

4. *Intermittent Fever.*—M. Fleury has presented a memoir to the French Academy of Sciences, on the use of cold douches in ague.

He was led to these researches by the assertion of Dr. Currie, that the accessions of ague might be prevented by the affusion of cold water, and that by its repetition four or five times, the disease might be entirely cured. M. Fleury has employed this means one or two hours before the expected paroxysm, in the form of a general douche, and in that of a local one to the region of the spleen.

The ends attained by the above plan he believes to be,—1. A shock exerted on the nervous system, and on the general capillary circulation. 2. The opposing of a vigorous reaction and general stimulation of the surface to the cold stage of the fever. 3. A modification of the circulation of the spleen, combating congestion of that organ.

He has pursued this treatment in eleven cases of intermittent fever. In seven of them the disease was recent, and there had been but from three to seventeen paroxysms; quinine had not been administered in any one. In two

* Prov. Journal, Dec. 29, 1848 † Ed. Med. and Surgical Journal, No. 175.
‡ Med. Gazette, Jan. 21.

cases, the spleen preserved its normal size; in five, it was enlarged: a cure was effected in all. In one, a single douche sufficed to cut short the fever. In two others, two affusions were necessary to do so, and to restore to the spleen its natural dimensions. In the remaining four, affusion was practised three times.

In those patients where two or three douches were used, the effects produced were constantly the same. By the first application, the accession was retarded two or three hours; the rigors less violent, and shorter by one half or five sixths the time; the heat and headache were equally lessened; and the total duration of the fit was diminished by at least one half. Age and the type of the fever did not exercise any appreciable influence over the effects of the treatment. Where, however, the volume of the spleen was larger, the time required for the cure was augmented. Four patients had suffered from the disease for from two to eleven months, having had several relapses, and resisted the action of sulphate of quinine, and presented the anæmia, emaciation, anorexia, &c., seen in those who have been long affected by ague. Three douches were required in two of these cases, and five in one other, to remove the fever; but from eight to eleven were necessary to cause the splenic engorgement and the cachectic symptoms to disappear. In one case the liver was very greatly enlarged; but this condition disappeared by perseverance with the affusions.

M. Fleury arrives at the following conclusions:—1. In the treatment of recent intermittent fever, simple, and with little or no engorgement of the spleen, cold douches may be substituted for quinine. 2. In the treatment of old-standing ague, where several relapses have occurred, and there is considerable enlargement of the spleen, or of the liver, with a cachectic condition, cold affusions are to be preferred to quinine; for they cut short the fever, restore the viscera to their natural volume, and remove the cachexy more rapidly and more safely than quinine; the latter, in large doses, not unfrequently acting injuriously upon the nervous system, or on the digestive organs.*

5. *Glanders, and Diffuse Cellular Inflammation, Analogy between.*—Mr. Frazer adduces three cases of diffuse inflammation, in which, although no glanderous infection could be traced, true glanderous bullæ appeared; from this he would deduce the analogy, if not identity, of the two forms of disease.†

6. *Cholera.*—The communications which have been called forth by the anticipated approach of this disease for the second time have been numerous; too much so, in fact, to allow of the possibility of noticing all in the present Report. In speaking, moreover, of several of the debateable points connected with the history of the disease, it will be our object to be as brief as is consistent with the importance of the subject, taking further into consideration that much of the recent information upon the subject has been already laid before our readers, by Dr. Guy, in his last Report on Public Health. The purely sanitary part of the question we shall still leave to be discussed by Dr. Guy in his future Reports, as part of the general question of hygienic medicine.

One of the most important of the recent contributions to the history of cholera is a work by Dr. Parkes, entitled, 'Researches into the Pathology and Treatment of Asiatic or Algide Cholera,' containing the results of extensive practical experience with the disease in India, and is distinguished by a careful inquiry into its symptomatology and post-mortem appearances as the only basis upon which a just view of its nature can be founded. It may be stated in anticipation, that the author's view of the pathology of Asiatic or algide cholera, is, that it is "primarily a disease of the blood, and that the proper and distinctive symptoms of the disease are induced by the changes which take place

* Bulletin des Academ., and Lancet. † Dublin Medical Press, March 15, 1848.

in the function of respiration directly consequent on the alteration of the blood. In order to do justice to the author's method of substantiating this opinion, we must follow him through the successive chapters of his volume.

The *post-mortem* appearances in cholera, the appreciation of which forms the first step in the line of argument adopted, are drawn from a comparison of forty-six dissections of males, averaging an age of twenty-seven years. From these he determines, that the most usual appearances in the cranium, consist in the accumulation of blood in the veins of the dura and pia mater, with more or less serous effusion. The most common appearances in the lungs were, the presence of blood in the large vessels mostly or solely, and collapse and deficient crepitation in the pulmonary textures. The right side of the heart and pulmonary arteries are generally full of blood, the left side and aorta were generally empty. The condition of the blood itself was noticed in thirty-nine cases, and the most important changes were observed to be as regards its coagulation and colour. It appeared probable to the author, "that there was a deficiency of fibrine, or a great tendency to its separation and deposition, and thus the red particles were partially dissolved in the serum. In the abdomen, it was found that there was some accumulation of blood in the larger branches of the vena porta and hepatic veins; thus the gall-bladder was moderately full, and the bile thick and viscid. The spleen did not offer any changes which could be attached to the disease itself, some of the patients in whom this organ was found to be in an abnormal state had suffered from the severe intermittents of the climate. The kidneys were unaltered in the majority. The stomach was either distended with a watery fluid not coagulable by heat, or it was corrugated and contracted. There were in some cases patches of hemorrhagic congestion. The small intestines were generally dilated, and in every instance contained a peculiar fluid. The agminated and solitary glands were enlarged, and the mucous membrane was generally injected, but not perceptibly thickened. There was no ulceration of the agminated glands in any case. In two instances, the solitary glands were ulcerated. The colon was contracted in about half the cases, sometimes to an extraordinary extent. It did not seem to bear any relation to the amount of the purging. There were no ulcerations or change in consistency of the mucous membrane.

Speaking next of the peculiar fluid found in the intestines, which was one of the constant appearances, the author describes it as white, or chocolate-coloured, consisting of a thicker and a thinner portion. The thicker lying in masses here and there: the thinner fluid sometimes coagulated by heat, but not generally; it precipitated nitrate of silver in every case. The author states that there can be no doubt that the thin rice-water evacuations consist of this fluid, and that they are composed of part of the water and salts of the blood, mixed with a protein compound. It is also probable, he states, that this compound is chiefly fibrin. The author further notices the two facts in conjunction—that the blood is deficient in its coagulable ingredients, and that the intestinal canal contained the ingredient in which the blood was deficient. The bladder was always contracted.

The chapter immediately following the minute description of the morbid appearances, of which ours is a greatly condensed account, is occupied with the *symptoms* of cholera examined separately, and, in a subsequent chapter, they are again viewed collectively. The author refers the chief phenomena of the disease to three heads, viz., the changes in the abdominal organs, in the thoracic organs, and in the muscular system; but what their mutual connexions and dependencies in the first instance are, he does not think it easy to decide. At a later period, the relations of one group of symptoms, as, for instance, the purging and vomiting to the collapse, can be more accurately determined. And here the author agrees with Orton, Kennedy,

Copland, &c., that there is no absolute ratio between the two groups of symptoms; for it often happened that at the period when the algide symptoms were most developed, the purging had ceased, and in others of the most fatal collapse, the purging and vomiting had been trifling or absent. This is a most important fact, and entirely subverts the common notion that the collapse is due to the draining away of the fluid portions of the blood.

The relation between the vomiting and purging and cramps appears to be more intimate, and the author seems to have remarked that the latter depended mainly upon the distension of the bowels by the fluid, and were mitigated by its expulsion; he noticed, also, that the mere distension of bowels by injections reproduced them after they had subsided, thus evidently pointing out their reflex origin. The author concludes the chapter by stating that the algide symptoms are the pathognomonic features of the disease, and that the evacuations and spasms, though frequent, are not essential phenomena.

The fifth chapter gives us a general description of the symptoms of cholera. Excluding those anomalous and obscure cases which he terms pseudo-cholera, he includes a disease which presents features characteristic of the action of a morbid poison, having its periods of evolution, progress, and termination. The first period is brief, and the last or febrile state is the reaction of the system after its endeavour to eliminate the poison. This stage, as he observes, is not often seen, the intervening period being so generally fatal.

The premonitory symptoms of cholera are diarrhœa, colic, trembling, tinnitus, nausea, and a sensation of lightness across the chest; at other times there are more severe vomiting and purging. These symptoms may be cut short by treatment. If they are not checked, they lapse into the true choleraic symptoms, or these latter make their invasion at once.

These destructive symptoms are seen in the condition of the respiratory and circulatory system, and consist of the fearful group of algide phenomena, which are only too familiar to those who are practically acquainted with the disease. Some hours before death, the author has remarked a return of heat over the head and chest, while the extremities retain their dry temperature. This he regards as an unfailing indication of approaching dissolution.

In the sixth chapter, the author investigates the connexion between the symptoms and post-mortem appearances. We shall not follow him closely in his lucid discussion of the debatable points which originate out of this question, but shall proceed to his division of the disease into forms or varieties depending upon the presumed changes in the blood, which, as we have said, he regards as the starting-point in the chain of morbid actions.

If the operation of the exciting cause, whatever it be, upon the blood, be overpowering in its effects, there is a complete and rapid arrest of the circulation, and the worst variety is produced, in which a mortal coldness prevails from the first. If the cause act with less intensity, we have the second variety, in which the fibrine is less altered, and the circulation is not prostrated at once. In this the protein constituents are effused into the intestines. The third or least formidable variety commences with watery purging and vomiting, and may pass into the first and second forms after variable periods. The mere watery discharge is not of material moment, and the case is not fully developed as choleraic till perhaps suddenly, after several serous stools, one containing the true choleraic flocculi is ejected. From this moment the true features of the disease become manifest.

Taking a retrospective glance, we observe that Dr. Parkes's theory of cholera is, that it arises from some poison, the impression of which is first made through the respiratory organs upon the blood. The changes induced in this fluid are mainly noticed in the condition of the fibrin, which loses its power

of coagulation, or is taken from the blood, being poured into the intestines in the form of the flocculi known as the solid ingredient in the rice-water evacuations. Dr. Parkes places less stress upon the vomiting and purging than most writers, not regarding them as essential symptoms, or tracing any direct ratio between their severity and the severity of the case; but, on the contrary, he notices that the most severe forms of the disease were manifested by a complete suspension of the respiratory and circulatory functions without the appearance of vomiting and purging. The connexion between them and the degree of muscular spasm he regards as more determinate.

With regard to the *propagation* of the disease, he is truly an anti-contagionist. (For his treatment, see ABSTRACT, art. 1.)

A pamphlet has been also recently issued by Dr. Gavin Milroy,* with the twofold object of determining what are the means by which pestilential cholera is propagated, and what should be the leading principles by which its treatment, preventive as well as curative, should be attempted. The leading principle sought to be established is that of its non-contagiousness, and consequently of the utter uselessness of quarantine, cordons, sanitaires and similar measures. This the author seeks to do by a well-digested history of the present and former epidemic, including the narrative of numerous instances of failure of the most stringent quarantine regulations, and their subsequent abandonment by several continental governments. The author also endeavours to strengthen his position by a comparison of the diffusion of the choleraic poison with that which gives rise to influenza, showing that the two have been in all important respects similar, and deducing therefrom, that, as the influenza is indisputably non-infectious, there are good grounds for reasoning by analogy that cholera is so also.

The essay, after some remarks upon the inutility of the so-called disinfecting agents, and the all-sufficient disinfecting powers of free ventilation, concludes with the instructions regarding the treatment of the disease which we have elsewhere given. (Art. 1.)

The impulse derived from the contemplated sanitary bill of Lord Morpeth has caused our medical literature to be inundated with pamphlets and less pretending communications, referring more particularly to cholera; some full of commonplace disquisitions upon sewers, insufficient ventilation, and so forth—all useful enough in the localities of their respective authors, but contributing nothing to the diffusion of real available information respecting the fearful disease with which we are now threatened. These productions we have not space to allude to individually, but are compelled to content ourselves with naming two, as possessing more than common merit: viz. a brochure by Dr. Starr, of Leamington,† and an essay on the "Present State of Knowledge of Cholera," by Dr. Knox.‡ The latter may be consulted as affording an elaborate and accurate *resumé* of the literature of the disease.

7. *Coexistence of Smallpox and Scarlatina.*—More modern experience has had frequent opportunities of disproving the Hunterian maxim, that two fevers cannot coexist in the same constitution; but the fallacy has seldom been more strikingly shown than in a case related by Mr. Marson, in which variola and scarlatina existed at the same time in the same subject. There is reason to suppose that such occurrences are not so rare as is imagined, as the author states that he has himself seen seven instances, and alludes to others scattered through various journals, the references to which are given in the original.§

* The Cholera not to be Arrested by Quarantine, 1847. † Discourse on Asiatic Cholera; London, 1848. ‡ Dublin Medical Press. § Med.-Chir. Trans., vol. 30.

PART II.—SPECIAL PATHOLOGY.

§ I.—*Diseases of the Nervous System.*

8. *Inflammation limited to the Lining Membrane of the Cerebral Ventricles.*—In an essay, published in the 'Archives Générales,' M. Rilliet alludes to the occasional occurrence of meningitis confined to the ventricles as a cause of chronic hydrocephalus. The disease, when thus circumscribed, originates, as does the peripheral form of the disease, in a state of apparently perfect health, and makes itself known by headache, vomiting, constipation, and fever. It differs, however, from the latter in the more constant occurrence of convulsions, and the late period at which the intelligence becomes disturbed.

9. *Delirium Tremens.*—Dr. Pliny Earle gives an analysis of the cases of delirium tremens admitted into the Bloomingdale Lunatic Asylum during a period of twenty-three years. The following comprises the most interesting facts elicited:

There were more cases admitted in the earlier years of the institution than at a later period, though in the interim the population of the city of New York had more than doubled.

The males exceeded the females in the proportion of 6—1.

Among males, the single men afforded the largest number of patients; among females, the married.

Merchants, traders, clerks, and professional men furnished more than half the number of patients.

The age at which the disease was most frequent was from 30 to 40.

Considering the severity of the disease, it was found to be very remediable; of 322 cases, only 20 died.

It appears that the treatment adopted varied much during successive periods; but no mention is made of that which was found most successful.*

10. *Apoplexy and Cerebral Softening—Diagnosis.*—If we consult the writings of Rostan and Lallemand, it would appear that the diagnosis of these two forms of cerebral disease is a matter of comparative facility; the first being sudden in its invasion, the other having certain precursory signs. That this broad distinction. however, will not hold good as a constant rule, must be familiar to those experienced in cerebral maladies, and has been recently insisted upon by a writer in the 'Revue Médico-Chirurgicale.'† Among the number of precursory signs of softening of the brain are mentioned tingling and pricking sensations in the limbs, cramps in the legs, loss of power and steadiness in walking, failure of the intellectual powers, hesitating speech, &c. It is, however, the author observes, equally certain that the same symptoms have been known to precede sanguineous apoplexy. Permanent contraction of the limbs has been regarded by Lallemand as pathognomonic of "softening;" the author shows that this symptom is also seen in apoplexy.

On the other hand, it is stated that the phenomena of ramollissement do not occur suddenly, as in apoplexy. The author shows that this is also a fallacy; and gives the instance of a man who suddenly fell down in a fit while micturating, in whom softening of the brain was the only morbid appearance. It appears, therefore, that there are in reality no trustworthy distinctive symptoms by which the two diseases can be recognised respectively,

* American Journal of Medical Sciences, Jan. 1848. † Dec. 1848.

11. *Epilepsy—Theory of Convulsive Diseases in general.*—This forms the subject of a comprehensive lecture by Dr. Marshall Hall, of which we proceed to give such an abstract as its laconic phraseology will permit. The author commences by alluding to the experiments of Flourens, proving that no irritation of the cerebrum or cerebellum, or of true cerebral nerves, can produce muscular action, and to his own researches, which prove that irritation of the spinal marrow may be induced through the medium of certain incident or excitor nerves. He then mentions the two series of causes of general convulsions, viz. centric, or that which originates in the cranium or spinal canal; and the excentric, or that which is seated in the peripheral nerves.

This irritation, centric or excentric, constitutes the first link of the chain of causes and effects, or symptoms in epilepsy. The second link consists in the excited action of certain muscles of the neck; the next step is the consequent compression of the jugular veins, and the venous system of the head and neck generally.

To this condition, arising from the compression of the jugular veins by the action of the platysma, &c., Dr. Hall applies the term sphagiasmus (σφάγιαξω, I strangulate). If this is not succeeded by laryngismus, cerebral epilepsy, or the *petit mal* of the French, is produced. Laryngismus, more or less complete, and *odaxismus*, or biting of the tongue, complete the sketch of the epileptic paroxysm.

Proceeding to more detailed accounts of the epileptic seizure, the author notices, first, the

Causes. These are—1. Gastric, enteric, uterine irritation; *reflex.* 2. Irritation of the cerebral membranes, and pericardium; also *reflex.* 3. Irritation of the medulla in disease within the cranium; *direct.* 4. Shock to the nervous system from emotion, violent efforts, sexual excess; also *direct.* 5. Sleep. 6. Undue excitability of the spinal system from previous attacks, sexual excess, &c. 7. Exanthematic perturbation. 8. Exhaustion from loss of blood. 9. Albuminuria and diabetes.

Speaking of sleep as a cause of epilepsy, the author suggests that sleep itself is of the nature of sphagiasmus.

Symptoms. Whatever be the cause of epilepsy, the author states that sphagiasmus is the first symptom. From this arises the cerebral part of the epileptic seizure, the flashes of light or mist before the eyes, perversion of smell, loss of memory, &c. The immediate cause of this action of the muscles of the neck, like the cause of action of the capillaries in blushing, &c., seems to be unknown.

If to sphagiasmus, and the consequent cerebral congestion, laryngismus is added, general convulsions, or true spinal epilepsy, ensues. There is biting of the tongue, frightful distortion of the eyes, limbs, and general frame; there are foaming at the mouth, protrusion of the tongue, and may be expulsion of the fæces, urine, or semen. The convulsion sometimes leaves one limb or side feeble; at others, and more generally, it is attended by deep coma, or followed by a paroxysm of mania. After repeated attacks the memory may fail. The author thus recapitulates his views of the epileptic attack:—

1st. Some source of irritation acting in a reflex or direct manner on the spinal system. 2d. Convulsion of certain muscles of the neck, compression of the jugular veins, and congestion of the cerebrum. 3d. Laryngismus—spinal epilepsy, congestion of the encephalon in a tenfold degree, with all its dire effects on the intellect and limbs.

Diagnosis. The chief difficulty is to distinguish epilepsy limited to cerebral symptoms, from fainting, indigestion, &c. When laryngismus, and especially biting of the tongue occurs, there can be no doubt that the case is epileptic. The last symptom the author considers to be diagnostic.

The distinction between hysteria and epilepsy is drawn by the author from the absence in the former of sphagiasmus, laryngismus, and odaxismus. In hysteria there is often a species of laryngismus; but the author states that it is very different from the epileptic laryngismus.

The peculiar symptom termed sphagiasmus by the author is assumed by him to be produced by the action of the platysma myoides on the jugular veins, an action which we shall see, in a future part of this Report, is also adduced by another writer to explain the "bruit du diable." The physiological action of this muscle on the vein is supposed by Dr. Marshall Hall to be exhibited in the production of sleep, and in the phenomena of blushing. The pathological effect he believes to be epileptic seizure, or mania, or apoplexy.

Treatment. The author observes, on this point, that all irritation is to be removed, whether in the stomach, bowels, uterus, &c To relieve the sphagiasmus, the head should be raised, and forced deep inspirations should be taken, or caused, by dashing cold water on the face. The rest of the treatment during the paroxysm is confined to preventing injury.

The author lays great stress on the regulation of sleep in epileptics. It should not be allowed to be deep, or to be abruptly broken. The disposition to augmented excitability is to be remedied by free exposure to the air, with exercise. There is no royal road to the cure of epilepsy. The idea of *a* remedy for the disease, the author says, is unphilosophical. The treatment should consist in a well-administered plan, embracing every means of good, and avoiding every means of harm.*

12. *Treatment of Epilepsy by Tartar-emetic Frictions to the Scalp.*—M. Mettais narrates ten cases in proof of the efficacy of tartar-emetic ointment rubbed into the scalp, so as to induce free suppuration. He states that the counter-irritation should be maintained for a considerable time, as relapses have occurred when the suppuration has been too soon suspended.†

13. *Peculiar Neuralgic Affection of the Forearm.*—M. Gamberini describes a neuralgic affection which commences at the extremities of the fingers, and extends to within an inch of the elbow. It appears always at night, and disappears towards morning. Women are especially prone to it. The author found that, although the periodic nature of this affection was so distinctly marked, yet no benefit was derived from the administration of quinine. The most certain relief was obtained by friction with belladonna.‡

14. *Tetanus.*—Our Extracts (14-15) contain the reports of two successful cases of tetanus; one by quinine in large doses, the other by the action of ether. One similar to the last has also been subsequently reported by Dr. Theobald, of Baltimore, in the person of a man, æt. 27, who had received a serious injury of the hand from the blasting of a rock. It was, however, a case of chronic tetanus; for the ether was not commenced till the seventh day of the disease (most fatal cases of acute tetanus dying on or before the fourth day), and was continued daily till the twentieth. The patient also took hydrocyanic acid in large doses.§

§ II.—*Diseases of the Respiratory System.*

15. *Auscultation.*—Although the practice of auscultation has been zealously followed for a period of more than twenty years, little has been added comparatively to the principles established by Laennec and his immediate fol-

* Lancet, Oct. 30. † Gaz. Méd. Feb. 1848. ‡ Ibid.
§ American Jour. of Medical Sciences, Jan. 1848.

lowers. Whenever, therefore, a new work appears giving a systematic account of the various phenomena discovered by auscultation of the chest, we look, as a matter of course, for the old matter; it may be dressed up in a more modern guise, but not materially altered or at all improved. An exception, however, to the usual routinism of writers on the physical diagnosis of the chest is to be observed in the last published book on the subject, by Dr. Blakiston,* for it must be allowed, after attentive perusal, that if he has not contributed original matter, he has at least rendered the subject as attractive as possible, by bringing it up to the latest researches of the time, instead of confining it to the stale rechauffé of stethoscopic knowledge which has been so long before the profession.

Dr. Blakiston divides the respiratory sound, as is commonly done, into three portions, the tracheal, the pulmonary, and the bronchial. Each of these he admits to be produced by the passage of air over the respective portions of the respiratory apparatus. Speaking of the cause of the second, or pulmonary sound, he notices the theory of M. Beau, that it is produced in the fauces and glottis, and it is its reverberation that is heard through the thoracic parietes; he does not, however, adopt this view, but adheres to the old and more feasible one, that it is caused by the rushing of the air through the smaller bronchial tubes (p. 21.)

The author's observations on the intensity and propagation of the pulmonary sound, and its modification and replacement by others, are much the same as are usually met with; the only paragraph calling for special remark being that in which he expresses his doubts of the value of the jerking respiration as a sign of incipient phthisis.

The rationale of the production of the *râle crepitant*, is a disputed point among stethoscopists. Dr. C. B. Williams attributes it to the passage of air through fine bronchial tubes, compressed by defriction, and Dr. Walshe to the unfolding of the vesicles, the sides of which he supposes to adhere. Dr. Blakiston combats both these theories, and decides with the generality that it is due to the passage of air through a thin viscid fluid. That such conditions are sufficient to produce it, he shows by the experiments of glass tubes filled with gum water.

On the subject of the *practice* of auscultation, the author has some judicious and truthful observations. Referring to the axioms on the transmission of sound laid down by him in a former chapter, he states his convictions of the superiority of a solid over the tubular stethoscope, and it adds not a little to the correctness of his judgment to know that Dr. Watson, who to a profound medical knowledge unites a close acquaintance with mathematical science, also approves of it. On the strength of such high recommendation, we have for some months past given the solid stethoscope a trial, and we feel bound to say, that we have not found it superior to the hollow instrument. For the appreciation of the more delicate shades of smoothness or roughness of the breath-sound, it has indeed appeared inferior. At a further page Dr. Blakiston compares the facility of acquiring a practical knowledge of auscultative aid with the comparatively few persons who attain even to mediocrity. Here we agree with him. It is the "Pons Asinorum" with the majority. A man easily learns to cut for stone with *éclat*, or becomes a celebrity in the emergencies of midwifery, but the same man will fail to recognise pneumonia, and will not venture a diagnosis in diseases of the heart.

In connexion with the subject of auscultation, we next call attention to some papers by Mr. Sibson on the position of the thoracic organs in the differ-

* Practical Observations on Certain Diseases of the Chest. Lond. 1848.

ent states of ordinary and deep inspiration. As the series is not yet complete, we must reserve a detailed mention of these valuable essays for a future Report.*

16. *Acute Pleurisy.*—Dr. Blakiston considers that venesection has been too highly praised in the treatment of this affection. He now generally refrains from it, especially in persons who are not robust. He places more confidence in leeches, or friction of the affected side with mercurial ointment containing ʒj of opium to the ounce. Between each friction he envelopes the chest in a linseed-meal poultice.†

17. *Chronic Pleurisy.*—The same author has watched this disease with great care, in order to determine whether it is frequently the precursor of phthisis. Of 53 cases in which the results have been accurately determined, no such consequence has been observed. He has also ascertained that the contraction of the side which frequently follows the absorption of the fluid, more generally disappears than has been supposed. Two years were found sufficient in many cases to restore the side to its normal proportion.

The treatment adopted in these cases generally consisted of mild iodine and mercurial frictions, and cream of tartar as a beverage in the form of imperial. Mineral tonics were also soon resorted to. In more advanced cases blisters were applied, and stronger mercurial frictions, and it was found advisable to support the strength with quinine, wine, &c. Paracentesis was necessary only in a single instance.

18. *Pneumonia.*—Dr. Blakiston introduces a new division of pneumonia into *serous*, *sero-plastic*, and the *plastic* forms, the existence of which, however, he determines from analogy rather than actual observation. The *plastic* form of the disease, of which he gives two examples, appears to be identical with the chronic pneumonia of Andral.

In the treatment of pneumonia, the author draws a just distinction between the *primary* and the *secondary* forms of disease. In the treatment of primary pneumonia, while he admits the occasional advantages of bloodletting and mercury, he places his chief reliance on tartar emetic in one-grain doses, which he considers as suitable to every stage of the disease.

In *secondary* pneumonia, as it occurs after injuries, or during the course of typhus, he does not venture on antimony, but prefers mercury and counter-irritation, with the liberal exhibition of wine and nourishment.‡

On the subject of the treatment of pneumonia by tartar emetic, we find some observations by M. Leoncio de Sobrado, giving the results of his individual experience. He comes to the conclusion—1st, that tartar emetic cures pneumonia more surely than the purely antiphlogistic system; 2d, it causes a a rapid subsidence of the acute symptoms; 3d, the tartar-emetic treatment is often followed by aphthous ulceration of the mouth and fauces; but this symptom is readily amenable to slightly astringent gargles.§

19. *Phthisis Pulmonalis.*—The natural causes and treatment of this disease occupy about seventy pages of Dr. Blakiston's volume. Tubercle, the element of the disease, is regarded as an error of nutrition, and its deposition as preceded by local hyperæmia. Although never seen but in the solid form, he admits, with Vogel, that it is secreted in a fluid form, becoming afterwards solid. The supposition of Addison that tubercle is but an abnormal accumulation of epithelial cells, he considers as irreconcilable with the received views of nutrition.

Respecting the contested nature of the gray granulation, the author states

* Medical Gazette, March, April, and May. † Op. cit. p. 261.
‡ Op. cit., pp. 266-84. § Gaceta Medica, Avril.

his conviction that it has no essential connexion with tubercle, but that it is an imperfectly-organized substance, which, if formed in a non-tubercular patient, may remain stationary; but under the contrary circumstances may retrograde into real tubercle. In this sense, he observes, it may in some cases be considered as the first stage of tubercle, but not in the sense admitted by Laennec and Louis.

The causes of phthisis are arranged properly by the author into two categories, the causes of the *diathesis* and the causes of its local manifestation. With regard to the former, the difficulty of arriving at any conclusion which can be considered as logically satisfactory, may be surmised from the statement of the author, that although he has accurate notes of the origin and termination of 9000 cases of phthisis which he is able to analyse, he still thinks a larger experience is necessary. Such experience will, we trust ere long, be afforded by the accumulated experience afforded by the Hospital for Consumption and Diseases of the Chest, of which we take pride in having been the originators. In the mean time the author proceeds to state how far his results agree with those of Louis.

This physician and philosopher admits as causes of the tubercular diathesis, *lymphatic temperament*, *female sex*, *continued febrile action*, and does not deny that of *hereditary transmission*. He rejects as causes *bad food*, *impure air*, *depressing passions*, climate and temperature, trade and occupation, and inflammation of the thoracic viscera.

The author agrees as regards the influence of temperature, sex, and febrile action; but he differs in considering that mental and physical depression have a more special action than Louis admits. The influence of hereditary transmission is also fully acknowledged in reference to the identity of the strumous and tubercular diathesis.

On the subject of the causes of tubercular deposition, the author states that all causes which tend to local determination of blood, facilitate the deposition of tubercular matter in the particular locality congested, if the tubercular diathesis be present. The great tendency of persons at the time of puberty to phthisis, is explained by the greater determination of blood to the lungs at that period.

Pulmonary congestion, from suppression of the menstrual discharge, has in the author's experience been a very frequent precursor of tubercle.

The possibility of perfect recovery from phthisis has been assumed by Roger, Boudet, Hughes Bennett,* and others, from the frequent presence of fibro-cartilage, with or without calcareous concretions in the summits of the lungs of persons who have died from other diseases. The author remarks that these appearances have often been discovered in persons who have never exhibited symptoms of phthisis, and that they have been shown sometimes to be the result of plastic pneumonia. What our opinion is of the value of the puckered cicatrices in these cases we have already stated ('Half-Yearly Abstract,' Vol. I, *loc. cit.*) The author, however, though demurring to the value of the evidence afforded by the fibrinous and cretaceous concretions, does not deny the possibility of recovery even after the formation of a cavity, but in fact details one of the most unquestionable examples of the kind. This fortunate termination is, however, rare. The chances of recovery from tubercular disease increase with the age of the patient.

The concluding chapter of Dr. Blakiston's work on the *treatment of phthisis*, is well worthy of perusal, and to it we must now refer the reader for further details; we have only space for his observations respecting two medicines now much in vogue, viz. *naphtha* and *cod-liver oil*.

* Half-Yearly Abstract, Vol. I, p. 199.

Of the former he states, that he has given it in 100 cases with the following results: In half the cases cavities existed in one or both lungs, and in these no permanent benefit was derived; forty-four died, and the remaining six remained with all the signs of advanced phthisis. In the other half of the cases in which the tubercles had not softened, some advantage was found in the improvement of the digestive organs; but the progress of the disease was not arrested in a single case; but comparing these fifty cases with the other fifty in which naphtha was not given, tubercular softening ensued as rapidly in the one case as in the other. (See 'Abstract,' Vol. II, p. 214.)

Cod-liver oil was tested by the author in a similar manner. Twelve of the incipient cases were decidedly improved. Of the confirmed cases, six were greatly relieved. Of these, four have become strong and fat, and only expectorate mucus; the other two have the disease in a chronic form. All were greatly emaciated when they commenced the oil. In five out of the hundred cases, it was obstinately rejected by the stomach. In eleven it purged. The author remarks further, that subsequently to this he has witnessed very beneficial effects in several other cases. If our readers will compare the above testimony with that which we have recorded in our former volume, they will, we are assured, be favorably impressed as regards the value of cod-liver oil in phthisis pulmonalis.

20. *Diagnosis of Phthisis.*—Pacini has announced that the corpuscles seen in the sputa of phthisical patients, and described by Gruby as pathognomonic of the disease, are nothing more or less than particles of starchy matters derived from the food, and not portions of tubercular matter.*

21. *Condition of the Gums in Phthisis.*—Dr. Fredericq has announced a brick-red line as a pretty constant appearance in the gums of phthisical patients. This line is most distinct over the incisor teeth. The author states that since his attention has been directed to this circumstance, he has looked for it in other diseases, but has never seen it, excepting in the instance of tubercular phthisis. The truth of this assertion may readily be ascertained.†

22. *Ossification of the Cartilages of the Larynx.*—A memoir has been presented to the Academy of Medicine by M. Segond on this subject, the chief points of which are seen in the following résumé:

1. The epoch of life at which ossification of the laryngeal cartilages commences is variable.

2. When this change takes place, it commences constantly at particular points, which for the most part correspond to the insertions of the laryngeal muscles

3. Ossification commences in the cricoid cartilages, and terminates with the arytenoid.

4. When the cricoid cartilage is entirely ossified, its form becomes altered, so that the anterior part of the cartilage cannot move under the thyroid cartilage, whence it happens that persons in whom the change has occurred, cannot utter the high notes of the voice.

5. The thyroid cartilage when ossified undergoes a notable transformation; the groove which is commonly seen in front of the superior tubercle is obliterated, and the inferior border of the cartilage is thickened, and interferes with the motions of the cricoid.

6. There is a change, independent of ossification, which may embarrass the movements of the cricoid cartilage, viz. a prolongation of the inferior cornu of the thyroid.

7. Two portions of the arytenoid cartilages resist the process of ossifica-

* Archives Générales, Août, 1847. † Revue Médicale, No. 5, 1848.

tion for a long period, these are the superior internal apophyses. The *corpora triticia*, when ossified, become amalgamated with the great cornu of the thyroid cartilage.*

23. *Tracheotomy in Croup.*—The propriety, so much disputed, of performing this operation in croup is discussed at some length in Dr. West's admirable lectures, now in the course of publication in the 'Medical Gazette.' That successful cures have been met with there is no question, but these have been chiefly in France. The reason that it has not succeeded to the same extent in England, Dr. West thinks is to be explained by the fact of the greater frequency of pulmonary complication with us. It must also, he observes, be borne in mind, that in France the operation has been performed in many cases in which it is probable that other treatment would have been successful. One great objection to the operations, as hitherto performed, is acknowledged to be the frequent occurrence of fatal bronchitis, from the direct admission of cold air through the canula; it remains to be seen whether the result would not be more favorable if precautions were taken to ensure a warm moist atmosphere in the room, of not less than 75°.†

§ III.—*Diseases of the Circulatory System.*

A considerable portion of Dr. Blakiston's work, above mentioned, is occupied with some of the more interesting matters connected with disease of the heart and large vessels, including thoracic aneurism, and the progress, termination, diagnosis, and treatment of chronic heart disease. We shall analyse these several chapters as briefly as possible.

24. *Thoracic Aneurism.*—Dr. Blakiston records 26 cases of this interesting lesion, some of which are remarkable for their rarity. Analysis of these and other cases furnishes the author with the following results respecting the *diagnosis* of the affection:

No diagnostic sign was furnished by the pulse, or by the presence of pulsation above the clavicle.

When pulsation was seen and felt over a permanent spot in the chest, it indicated sacculated or mixed aneurism.

Purring thrill was only valuable in conjunction with other signs.

A systolic murmur, heard at a distance from the heart, even though it were not heard in the precordial region, was valuable only as combined with other signs.

A double or diastolic murmur, confined to one spot, at a distance from the precordial region, denoted the existence of a sacculated aneurism.

Aneurism may exist without the slightest trace of pulsation or murmur.

Aneurisms within the pericardium were not indicated during life by any characteristic signs (p. 139).

25. *Treatment of Aneurism.*—Dilated aneurism, as it is called by the author, or aneurism by dilatation of all the coats of the vessel, can only be rationally handled by diminishing the force of the heart's action. We may do this by venesection, but, as the author justly remarks, not without a twofold danger, if carried to any extent, as, in the first place, we increase the irritability of the heart, and cause its beat to be more violent than in health; and, secondly, we run the risk of inducing syncope, from which, with such a state of vessel, the patient might not recover. Digitalis also, in the author's opinion, requires caution in its exhibition; and he prefers poppy and hyoscyamus as more safe remedies.

* Archives Générales, Novembre 1847. † Medical Gazette, Jan. 21.

In the treatment of sacculated aneurism the object is to cause coagulation of the blood in the sac. This may, in some cases, be attempted by venesection; but the author notices that repeated abstraction may also prevent the end in view, by diminishing the coagulability of the blood. For this reason he trusts to sedatives and the application of cold. Purgatives are also indicated to moderate the tendency to plethora. (p. 147.)

26. *Chronic Heart Disease.*—In order to illustrate the subject of disease of the heart in its various bearings, Dr. Blakiston divides a large number of well-narrated cases into two categories, according as they were or were not accompanied by obstructions to the general circulation. An examination of those cases shows that the principal alteration in the walls of the heart were hypertrophy, attenuation, and softening. The chief alterations of the valves and orifices were such as to prevent the proper action, to diminish the size of the orifices, or else to weaken them so that the valves could not close them. The effects of these alterations were either obstruction to the current of blood, or the production of regurgitation. The causes of the valvular changes are described as threefold: 1st, atheroma; 2d, inflammatory thickening, vegetations, and adhesions; 3d, simple dilatation of either cavity, ventricle as well as auricle.

The effects of hypertrophy on the health, the author remarks, may be favorable or unfavorable, according to circumstances. Thus a certain amount of hypertrophy is natural as age advances, and the diminished elasticity of the vessels require greater force in the heart's action. So also when it occurs in connexion with obstructive or regurgitant disease of the aorta, it is salutary. Hypertrophy acts unfavorably on the health by retarding venous circulation, when regurgitation through the auriculo-ventricular orifice takes place, or by inducing congestion of the lungs and general arterial capillary system.

The effects of simple attenuation do not appear from the author's cases to be readily determined, neither were the effects of softening to be clearly traced.

Lesion of the *aortic* valves alone does not appear to be serious, as death did not result in a single instance in the author's experience. When, however, it exists to any extent, it rarely fails to superinduce other and more dangerous cardiac mischief.

The effects of disease of the *pulmonary* orifice cannot be estimated from their rarity. Disease of the *mitral* valve is far more serious in its consequences. Of the 39 cases reported by the author, 12 died suddenly; and of 27 others which died of pulmonary congestion, those valves were incomplete in 24. Regurgitation through these valves is more serious than obstruction, unless the latter exist to a very marked degree. *Tricuspid* regurgitation to a slight amount is considered by the late Mr. Wilkinson King to be normal condition, but when in excess it offers a formidable obstruction to the return of the blood from the general venous system, and is thus a potent cause of general dropsy. This is seen in the comparison of 34 cases of dropsy arising from cardiac disease, reported by Bouillaud; in 24 of which tricuspid regurgitation existed, and in others it was combined with dilatation of the cavities, so that there were only three cases in which there was not either tricuspid regurgitation or obstruction. The same proportion has also been remarked by Dr. Blakiston in his own cases.

27. *Diagnosis of Chronic Heart Diseases.*—This important subject is treated of in chapter xii. Dr. Blakiston divides the causes of cardiac derangement into *inorganic* and *organic*; the former including, 1, dyspepsia; 2, hysteria; 3, hyperemia; 4, anæmia. Any of these may give rise to palpitations, inter-

mitting pulse, dyspnœa, &c.; and it therefore is of importance as to prognosis to be able to recognise their effects. This the author observes may generally be done with facility in the case of dyspepsia and general nervous irritability; but in anæmia a bruit exists, which cannot at once be known from that arising from diseased aortic valves. He states, as a distinction, that it is seldom persistent, and is generally accompanied by the venous murmur; and is always soft and blowing.

If an *organic* cause is decided to exist, it is next to be determined what is the nature of the change or changes. This the author endeavours to ascertain as follows:

If the contractile power of the heart is *increased*, as a constant symptom, it denotes hypertrophy; in which case the precordial dullness will be greater than usual, and the systolic sound will be muffled. If the heart's power is *diminished*, it may arise from attenuation or softening, and possibly from adhesion of the pericardium. In simple dilatation the precordial dullness is increased, and the sounds of the heart become clearer and sharper than natural. When softening exists, the sounds, as well as impulse, are feeble.

Dr. Blakiston considers that there is no sign by which adhesion of the pericardium can be recognised.

In seeking a localization of *valvular* derangement, the author states that if there be neither urgent dyspnœa nor signs of general obstruction of the circulation, the aortic orifice may be suspected. If urgent dyspnœa alone be present, we should look to the mitral orifice. If there be signs of obstruction to the general circulation, tricuspid obstruction, with or without disease of the left side, may be suspected.

The author sums up the signs of valvular disease as follows:

Aortic Orifice—*Obstruction.* Systolic murmurs traced up the aorta.
Regurgitation. Diastolic murmur; visible arterial pulsation.

Mitral Orifice—*Obstruction.* Sometimes diastolic murmur at the apex and lower angle of the scapula; without visible arterial pulsation; pulmonary engorgement.

Regurgitation. Sometimes, but not often, systolic murmur at the apex; occasionally undulations between the second and third ribs; pulmonary obstruction.

Tricuspid Orifice—*Regurgitation.* Seldom any murmur; jugular pulsation; general venous obstruction.

28. We have now, in the last place, to give a short notice of the author's views on the *treatment* of chronic heart disease.

The author first remarks on the well-known frequent origin of chronic disease in attacks of pericarditis, and states his belief, in which we fully concur, that recoveries with a sound organ would be more common if general bleeding were seldomer resorted to, and mercurial action more rapidly established than is usually done. He recommends mercurial inunction over the præcordia as a precautionary measure in all cases of acute rheumatism. He also describes two other forms of pericarditis which are often overlooked: the one is that which is apt to follow severe injuries and operations; the other is thus described: "The patient complains of some slight ailment, it may be, of the head, chest, or abdomen, and is treated accordingly; but on the relief of such symptoms the pulse remains sharp and frequent. The sounds of the heart are seldom affected. After a time the pulse falls, and the patient slowly recovers. In four such, after an interval, valvular disease supervened."

29. In the general treatment of cardiac affections the author is guided by the circumstance of the presence or absence of obstruction to the circulation.

In the latter case he resorts to leeches and sedatives, especially local anodyne frictions. If pulmonary obstruction is present, he insists strongly on ascertaining the state of the mitral valve. If this does not admit of regurgitation, we are to be cautious in lowering the heart's action. If there be regurgitation, the force of the ventricle is to be slightly diminished, as above mentioned. Bronchial secretions may be solicited by expectorants, as squills with ether and camphor. If the heart's action is feeble, a tonic regimen is called for.

When, in addition, the general circulation is obstructed, the capillaries are to be relieved, by exciting the secretions of the kidneys, bowels, and skin. If digitalis be given as a diuretic, the author advises its combination with ammonia, to guard against its depressing effects.

We here conclude our notice of Dr. Blakiston's volume, and can pronounce it to be the work of an accomplished clinical physician. Although it cannot lay claim to much originality, either in matter or method, it exhibits qualities which readily entitle it to a place beside the recent works of Latham and Crisp, of which we have formerly given some account.

The next communication to be noticed is one by Dr. Barlow; which consists of cases and observations illustrative of the

30. *Etiology of Enlarged Heart.*—Dr. Barlow commences by stating that enlarged or hypertrophied heart may originate in obstruction to the passage of the blood out of the organ, and consequent increased effort on the part of the parietes. This accumulation of blood may arise from two classes of causes:

1st. Obstruction in the orifices of the heart, or in the remoter course of the circulation.

2d. Obstructions from changes in the quantity or quality of the blood itself.

Dilatation may also ensue from two causes, viz.

1st. Increased quantity of blood in the cavities of the heart.

2d. Insufficiency of strength in the walls of the heart to overcome the ordinary distending force.

Consequently, enlargement, or hypertrophy with dilatation, originates in a combination of these causes.

The author, in proceeding to illustrate the manner in which obstruction to the circulation causes enlargement of the portion of the heart situated behind the point, commences with the right side, giving an instance of enlargement of the right auricle and ventricle, consequent upon pulmonary obstruction. The case in question was one of chronic bronchitis with dilated tubes. He alludes also to another condition of the lungs, often seen in young persons, which may induce the same condition of heart, viz. an imperfect development of the lungs, independently of structural lesion. This condition, which is usually associated with small trachea and pulmonary artery, is said to offer a virtual impediment to the circulation.

[It does not appear to have occurred to Dr. Barlow, that in the subjects in whom this congenital defect is observed, there are usually evidences of deficiency in the quantity of blood contained in the general system, and that there is, therefore, something like a balance between the circulating fluid and the pulmonary expansion. Such has been the case in our own experience; and we should therefore be little inclined to anticipate the cardiac derangement in question from that cause alone.]

Dr. Barlow has also observed an enlarged right heart from adhesion of the pericardium, before growth is completed.

The next source of the same effects is obstruction of the mitral valve, which acts through the medium of the lungs. Of this complication an instructive case is given. He next proceeds to the orifice of the aorta and its valves, obstructive disease of which, he observes, frequently terminates in sudden death from syncope, and occasionally and indirectly by allowing of pulmonary engorgement.

Disease of this portion of the heart, as well as of the aorta and arteries, which he next considers, produces its first effects upon the left side of the heart, the effect being propagated backwards.

The second class or causes of enlargement of the heart, viz. those arising from change of quality in the blood itself, remains to be noticed.

Simple plethora, or actual increased quantity of blood, is a condition of the existence of which the author is sceptical, but he is fully aware of the agency of impoverished blood, as in Bright's disease, in inducing hypertrophy and dilatation. This fact he explains upon the supposed correctness of the observations of Magendie, that a viscid fluid is propelled through capillary tubes more readily than water. He, however, admits the more probable explanation upon the supposition of the loss of muscular power by the heart from impaired nutrition.

In conclusion, the author enumerates the following circumstances which may damage the heart, viz., long-continued bronchitis—anything which tends to prevent the expansion of the lungs—pericardial adhesion, intemperance, and excessive muscular exertion—disease of the depuratory organs—neglected chlorosis—hemorrhages, and, above all, repeated abstraction of blood.*

31. *Dissecting Aneurism.*—We give an additional instance of this form of aneurism, reported by Dr. Pirrie. The subject of it was a man æt. 50, who died suddenly. In the arch of the aorta, about three quarters of an inch to the left of the origin of the left subclavian artery, there was a rent of the inner and middle coats. From this rent to near the origin of the aorta, and for upwards of an inch in the capillary side, the external coat was separated from the middle, around two thirds of the circumference of the vessel. The aneurism had burst into the pulmonary artery.†

32. *Rupture of the Cordæ Tendineæ on the right side.*—Dr. Bentley Todd narrates an instance of this rare lesion, accompanied by pathological remarks of considerable interest. A man had received a stab in a scuffle, which was followed by pleurisy, necessitating repeated venesection. A month after the injury he vomited blood. When admitted under Dr. Todd he was anemic, with general anasarca and indurated liver, cough, orthopnœa. After death, which resulted from rapid effusion into the pleura, the heart was found to be hypertrophied and dilated, especially on the right side. The valves were healthy, excepting the tricuspid, the anterior portion of which hung loose in the ventricle, the cordæ tendineæ being completely broken across.

In commenting upon the above case, Dr. Todd remarks that the accident was probably due to distension of the ventricle, from an obstacle to egress of the blood, which obstacle was to be found in the state of the lungs during the struggle before mentioned.

The symptoms were progressive, and evidently due to tricuspid regurgitation, and the inevitable series of pathological events which such a condition gives rise to.‡

33. *Cause of "Bruit de Diable."*—Every practitioner is familiar with the humming sound heard in the cervical region in anæmic subjects, but few are

* Guy's Hosp. Reports, vol. v, p. 273-285.

† Month. Journal, Nov. 1847. ‡ Dublin Quarterly Journal, Feb. 1848.

induced to reflect on the mechanism of its production. In a recent communication in which the subject is investigated, Dr. Bellingham admits two distinct murmurs attendant on the anæmic condition—one continuous, the other intermittent: the former being venous, the other arterial.

The conditions necessary for the production of murmurs in the circulation are stated to be—

1. A certain degree of roughness in the lining membrane of the vessel.
2. A certain strength or rapidity of the blood-current.
3. A certain degree of density of the blood itself. When the three conditions are simultaneously present, the murmur will be heard in its highest intensity.

In the morbid state in which the "bruit de diable" is heard, Dr. Bellingham observes that the first condition is absent, the lining membrane of the blood-vessels preserving its natural smoothness, but the other two are present, the current being more rapid, and the density of the blood diminished, a greater amount of friction, therefore, takes place, and a murmur is produced in the arteries, of an intermittent character, occurring during the ventricular systole.

In the veins, however, the current being more feeble, some other explanation is required; and it is necessary to resort to mechanical obstruction, to account for the murmur. In the case in question the sound is developed in the jugular vein, as may be readily ascertained. In order that friction, sufficient to develop the sound, should occur, Dr. Bellingham conceives it to be essential that the platysma and cervical fascia should have a certain degree of tension, which can be effected by turning the patient's head, so as to put the side of the neck examined upon the stretch. If a certain degree of pressure be now made by the stethoscope, so as to diminish the calibre of the vessel, a murmur will be developed, and will be continuous, because the venous current is continuous. If the pressure be carried beyond a certain point, so as to disturb the blood-current, the sound ceases. Dr. Bellingham is, therefore, of opinion that there is really no abnormal sound in the vein, but that it is due solely to the pressure exercised by the stethoscope.

[He omits to add that the blood is in a state more readily to be thrown into vibrations. In a healthy subject the murmur cannot be developed by any amount of pressure. There is nothing new in the explanation of the production of the sound by the pressure of the instrument. The novelty in Dr. Bellingham's views, consists in the part he assigns to the tensive action of the platysma and cervical fascia, as explanatory of the many anomalies attendant upon the existence of the murmur—such as the variety of intonation, its disappearance one day, and re-appearance the next, &c., all which may, according to him, be ascribed to the accidental degrees of tension to which these structures are submitted by the posture of the patient.

In a discussion to which the enunciation of these views gave rise, Dr. Benson differed from Dr. Bellingham, in not attributing so much to the effect of pressure by the stethoscope. Dr. Byrne mentioned as a practical fact, that anæmic females, in whom this murmur was observed, were not predisposed to phthisis. This view is corroborative of what we had considered as a fanciful theory advanced by Trousseau,—that it is unsafe to cure chlorosis, as the chlorotic and tubercular cachexiæ are antagonistic, and by removing the one, we often lead to the induction of the other. Our own experience is directly opposed both to the one and the other statement; we have continually met with the anæmic venous bruit in persons in whom the presence of advanced phthisis was undoubted.]*

* Dublin Med. Press.

§ IV.—*Diseases of the Chylopoietic System.*

We have but little to record during the past six months in this section of our Report. The following are the subjects of more particular interest in addition to those given in our Extracts:—

34. *Intestinal Obstruction.*—Mr. Phillips read a paper on this subject before the Medico-Chirurgical Society, with the object of elucidating the diagnosis of the cause and seat of obstruction, and also the propriety of resorting to a surgical operation for relief. The author based his observations on 169 cases, of which he stated such particulars as tended to exemplify the varieties of obstruction, and at the same time exhibited the great similarity of the symptoms. After showing the more ordinary symptoms, he inquired whether there were any combination by which particular varieties of obstruction could be recognised. The result of a careful analysis of symptoms and cases went to satisfy the author's mind that no arrangement of symptoms is so definite or constant as to make a diagnosis of the cause of obstruction conclusive. Supposing an operation to be resorted to, it is of course very desirable to ascertain the seat of the affection; and here the difficulties are not less formidable than those which occur in attempts to determine the cause of the obstacle. The history of the case may give assistance in some instances, the existence of a tumour in others, and the distended intestine in a few cases; but in most instances we shall be left in doubt. The author then stated the results of ordinary treatment; and concludes that there are cases in which recourse to surgical operation is justifiable. He showed that the abdominal walls have been cut through in more than fifty cases, for the purpose of affording relief, stating the particulars of many, and the results of all; showing that of those operations, twenty-four appear to have terminated favorably. He showed, further, that some of those operations were undertaken with a view to seek the obstacle and to remove it, but in very few instances has the object been accomplished, the ordinary result being the establishment of artificial anus; and he regarded this as the only practicable result of operation in cases which do not prove fatal.

In the discussion which ensued, Mr. Hilton stated that in the cases which he had seen of impassable obstruction in the upper part of the jejunum, the deficient secretion of urine was a most remarkable feature; and he believed when this symptom was observed in association with a flattened or concave condition of the abdomen, the two in combination might be considered almost pathognomonic of the seat of the obstruction being near the stomach. He would merely take this example as an instance of what he thought might possibly have been ascertained if the contents of the paper had been grouped in reference to the position of the obstructing cause. Mr. Hilton agreed with the author regarding the propriety of the median section of the abdominal parietes, when the operation was deemed necessary, and the exact seat of the obstruction not known; but after opening the abdomen, instead of attempting to trace the distended intestine, with the view of reaching the constricting cause, he would prefer the plan which he had himself adopted, of tracing the empty intestine towards the constriction, and using it to discover the obstructing cause. In some of the cases related in the paper, it was mentioned that large and distending quantities of air had been thrown into the intestines, with the intention of relieving the obstruction. He doubted the propriety of such a proceeding; for he had observed in practice, and as the result of direct experiment upon the intestines in lower animals, that extreme distension

causes paralysis of the intestinal muscular fibres. He could fully confirm an observation the author had made, that although the long tube may have been introduced into the rectum to the extent of two feet or more, instead of its having travelled to an equal length along the intestinal canal, it had actually gone but a very short distance, and had then become coiled upon itself.

Dr. Todd disagreed with Mr. Hilton, in considering a flat or concave state of the abdomen a diagnostic mark of the obstruction being situated high up, and related two cases, in which the abdomen was flat and concave, the intestines containing no gas, in both of which instances the obstruction was low down. The conclusion he had come to, in reference to the flaccid state of the abdomen, in cases of obstruction, was this—that if inflammation existed, tympanitis was present, and if it did not exist, the belly was flat or concave. As to the question, whether, in obstinate constipation, we should, or should not, administer purgatives, he was convinced, that after the first day or two we should do away with purgatives altogether; or, if we did use them, we must employ the gentlest and mildest of these agents. He had not seen cases of this kind cured by means directed particularly to the removal of the obstruction, although, in one instance, the obstruction had yielded to the introduction of a moderate quantity of air into the intestines. He did not advocate the use of a large quantity of air in these cases, as such a proceeding was likely to paralyse the intestines.

Dr. Bright remarked that our diagnosis of the situation of the stricture in cases of internal strangulation was but imperfect, but he had observed, in one or two cases in which the obstruction was situated in the small intestines, the peristaltic action of these could be seen more distinctly than when the obstruction was in the colon. There was, however, in most cases, excessive difficulty in arriving at a knowledge of the exact seat of the strangulation. He suggested that the paper might be incorrect in its statistics of the fatality of these cases, as it only appeared to embrace those instances of the disease which might be almost considered hopeless, for it was well known to what a great extent, as to time, obstruction might exist, and yet the patient get well, contrary to the expectation of the practitioner in attendance. He remembered several cases of this kind, in which the operation proposed might have been resorted to, as apparently the last and only remedy. He related one case in which constipation, with vomiting, had existed for six weeks, the abdomen eventually becoming as large as that of a pregnant woman at the ninth month. This patient eventually did well. In these cases all violent means, whether purgatives or others, should be avoided after the first few days, the patient receiving more benefit from mild and gentle remedies.

Remarks of much value were also made by Dr. Copland and Mr. Travers.*

35. *Gelatiniform Cancer of the Peritoneum, Ovaries, and Lymphatic Glands.*—Dr. Ballard has recorded the annexed case:—A female, who had suffered from menorrhagia and prolapsus uteri, after striking the abdomen found the body began to enlarge, especially in the hypogastric region. She began to vomit a few months previously to her admission at the dispensary. On being visited, she presented the appearance of a person labouring under some severe organic disease, and was considerably emaciated. The abdomen was greatly enlarged, dull on percussion generally, and fluctuating most distinctly; it encroached very much upon the limits of the thoracic cavity. The umbilicus was remarkable in being stretched and flattened out, and not prominent as is customary in ascites. The case was believed to be one of ascites, arising from cancerous disease about the larger divisions of the portal vein,

* Lancet, Nov. 20.

and under part of the liver; fibrous tumour of the uterus was detected, and encysted ovarian disease believed to be likewise present. She was tapped on the 24th, but only a teaspoonful of clear jelly passed from the trocar, and she died on the 26th. On examination of the body, the peritoneal cavity was discovered to be full of a very tenacious and gelatinous matter, emitting a very sickly odour. A large ruptured ovarian cyst. containing a similar matter, occupied the lower part of the abdomen, and there were several smaller cysts about the inlet of the pelvis. The whole peritoneal surface of the abdominal wall and diaphragm was infiltrated with colloid cancer, as also was a considerable part of the peritonæal coat of the liver and spleen. There was a large tumour lying upon the right side, which was formed by the omentum and mesocolic glands converted into colloid, and the mesenteric glands, with those about the under surface of the liver, were similarly affected. This diseased mass was connected below with a fibrous tumour of the uterus. All the gelatinous products, wherever found, presented the characteristic cells of cancer. In commenting upon the case, the author introduced his remarks by observing, that, although colloid cancer of the peritoneum was not of very unfrequent occurrence, he had failed in his search after a case at all approaching it as regards extent, and he had been unable to discover another recorded instance in which colloid matter had been found free within the cavity of the abdomen. He believed that the disease had commenced in the mesocolic glands, from which it had spread upwards over the liver and spleen to the abdominal wall, and downwards to the omentum and ovaria; and that the general effusion of colloid into the peritoneal cavity had taken place subsequently to the rupture of the ovarian cyst from the blow which the patient had received upon the abdomen. These opinions were supported by considerations deduced from the appearances after death, and from the clinical history of the case.*

36. *Treatment of Ascites by Iodine Injection.*—A case is related in the 'Gazette Médicale' (Mars 4), in which a cure was effected by injecting into the peritoneal cavity a weak solution of iodine. The patient, a child æt. 7, had been tapped several times, but the abdomen had always refilled, and he was in all but a hopeless condition when the above plan was resorted to. It was a case of asthenic dropsy, and no disease of the heart or other viscus could be discovered.

§ V.—*Diseases of the Genito-Urinary System.*

We have received the fifth edition, revised, of Dr. Prout on 'Stomach and Urinary Diseases.' Praise would be entirely superfluous respecting a work which the profession has long and unanimously regarded as *the* standard authority upon the diseases of which it treats; suffice it to say, that the present edition brings each subject up to the knowledge of the day, at least as far as such knowledge can be made available. Much of the minute chemical study which have of late been so prominently brought forward in connexion with urinary maladies is regarded by the author with little favour. We consider that we shall benefit those of our readers who do not possess this admirable work by urging them to lose no time in becoming possessors of it, and masters of its contents.†

* Reported in Lancet, &c.

† On the Nature and Treatment of Stomach and Urinary Diseases, by William Prout, M.D., F.R.S. Fifth ed., pp. 596.

37. Two important contributions to the pathology of the kidneys, which we are now called upon to notice, are to be found in the last volume of the 'Medico-Chirurgical Transactions.' Of these the first is on *subacute nephritis*, by Mr. Simon; the second *on the inflammatory diseases of the kidneys*, by Dr. Johnson.

The first of these essays is made up chiefly of anatomical observations illustrative of the changes induced by subacute inflammation of the kidney, which it will be superfluous here further to allude to, as they will doubtless meet with due consideration in a Report on Pathological Anatomy, by Dr. Day, which it is our intention shortly to publish. There are, however, certain views propounded respecting the disease familiarly known as *morbus Brightii*, which it is our province to notice.

The author calls in question the fact announced by Dr. Bright, that the "mottled" and the "contracted" kidney are different stages of the same lesion, and affirms, on the contrary, that they indicate different pathological actions. The mottled kidney he refers to the fatty degeneration, the "stearosis" of Gluge, and this he believes does not in any case become contracted. The contracted kidney he considers to be one of a series of changes the pathological affinities of which do not point to strumous degeneration as does the other, but to chronic or subacute inflammation as it occurs in certain blood-diseases, in rheumatism, fever, &c. He suggests that the term Bright's disease should be discontinued, and its place be taken either by the term subacute nephritis or scrofulous degeneration, as the case may be, both these forms of the disease being comprehended in the disease to which Dr. Bright has given his name.

The diagnosis of the two forms of disease, does not appear to be well laid down by the author, for in fact he trust entirely to the microscopic evidence of oil-globules entangled with the fibrinous casts common to both, as the only distinctive part of the scrofulous form.

In reference to treatment, Mr. Simon's injunctions may be thus briefly summed up—local bloodletting, if the general condition of the patient warrants it; the vapour-bath; avoidance of diuretics; careful diet.

38. The essay by Dr. Johnson is occupied with the descriptions of four morbid conditions of the kidney, which he severally describes as—1st, acute desquamative nephritis; 2d, chronic desquamative nephritis; 3d, simple fatty degeneration; 4th, a combination of fatty degeneration with desquamative nephritis.

In all these diseases he remarks, morbid materials are deposited in the urinary tubules, portions of which being washed out are mingled with the urine. The diagnosis which he considers as of great moment, is to be made by the microscope. For a more minute description of the microscopical appearances in each, we refer to the original.

In the treatment of these diseases, Dr. Johnson insists upon two indications, —1st, to prevent further development of the products, the excretion of which by the kidney induces serious structural changes; 2d, to relieve the kidney as much as may be by exciting the action of other elementary organs, as the skin and bowels.*

39. *Alkaline Urine.*—Dr. Rees points out that urine which is secreted normally acid may become alkaline during its transmission through the urinary

* Medico-Chirurgical Transactions, vol. 30, p. 188.

passages (independently of delay in the bladder), and that such cases are benefited by alkaline medicines. He narrates a case in illustration.*

We may here call the attention of our readers to a series of papers now publishing by Dr. Gairdner, on the pathology of the kidney. We defer our notice of them till they are complete.†

§ VI.—*Diseases of the Skin.*

40. We have to notice two works by Mr. Erasmus Wilson in this department, both of which have appeared since our last Report. Of the first of these, 'Portraits of Diseases of the Skin,' two fasciculi of which are published, it is impossible to speak too highly. As a work of art, the 'Portraits' have not only never been surpassed, but have not even been approached by any previous delineations of skin disease. The plates are most beautifully coloured, and are as correct as beautiful.

The other work to which we have alluded, is a brochure entitled 'Ringworm, its Causes, Pathology and Treatment.' The term 'Ringworm,' observes Mr. Wilson, ought to be restricted to eases which cause the hair to fall from brittleness, and with this restriction the term is accordingly used by him, under this denomination therefore two diseases only are arranged, viz., true favus and scurfy ringworm (Porrigo scutulata, Wilson) which he calls "Trichonosis furfuracea." To each of these the author devotes a chapter, embracing a minute description of its characters, analogies, causes, and treatment. The most startling announcement contained in the volume is, that these diseases are not contagious,—an assertion with which Mr. Wilson will scarcely find many to agree, especially after the direct evidence to the contrary which Dr. Hughes Bennett has afforded by means of inoculation. It is true that several other attempts, made by the same writer and by others, have failed, but it must be remembered that one well-ascertained positive fact is worth any amount of negative ones. Mr. Wilson also disputes the vegetable origin of favus as is maintained by Gruby and Dr. Bennett, but he admits in a footnote that he has not had time to investigate the researches of these writers, and it is not improbable therefore that future inquiries may induce him to modify his opinion.

Mr. Wilson's observations on the treatment of these usually intractable complaints will well repay perusal.

41. *Danger of Repressing Skin Diseases.*—Several instances have occurred in the practice of M. Devergie, illustrative of the danger which may arise from the repression of chronic skin diseases. The narrator of the cases sums up as follows:—1. The functional disturbances of the internal organs occur simultaneously with the subsidence of the skin disease. 2. The severity of the symptoms is proportionate to the extent and severity of the skin disease. 3. The symptoms cease on the return of the cutaneous irritation. 4. Death may occur more rapidly than from similar internal disease produced by other causes. 5. If the internal disease be healed antiphlogistically, death is precipitated, and a fatal result always ensues if the eruption cannot be restored or an artificial one excited.‡

[A case, which made a deep impression, occurred to the writer of this Report a few years back. It was that of a man labouring under extensive psoriasis, but in other respects in perfect health. He was put upon an arsenical

* Med. Gazette, Ap. 7. † Monthly Journal, April, May, &c.
‡ Gaz de Hôpitaux, No. 110.

course, when in a few days the eruption had almost disappeared, but at the same time he complained of dyspnœa, and died with the symptoms of pleurisy in 48 hours. On examination, the right pleura was filled with sero-purulent effusion. This was distinctly an instance of internal inflammation of a low type, excited by the repercussion of the cutaneous malady, and is calculated to enforce caution in the treatment of old-standing skin affections.]

42. *Elephantiasis.*—[Instances of this curious disease are so rare in this country, that we do not hesitate to insert the following, reported by Mr. Southam, which might moreover claim to be considered as remarkable even had it occurred in a tropical climate.]

The patient was a female. The disease had existed twenty years, commencing when she was eighteen years of age. It began on the dorsum of the foot, and was preceded by pain and fever. After œdema appeared it became permanent and slowly extended up the leg. The patient was little inconvenienced for the first eight years, excepting by the bulk of the limb; but as the swelling approached the thigh the pain became more severe, especially in the thigh, and the integuments were the seat of frequent erysipelatous attacks which were attended with a discharge of clear watery fluid. A few years ago a large ulcer formed on the inside of the thigh, and recently three others made their appearance near the ankle. Although these discharged abundantly, there was no diminution in the limb. The measurement round the calf of the leg was 2 feet 9 inches, above the knee 3 feet 4 inches, and at the upper part of the thigh 5 feet 6 inches. The limb had a lobulated form.

The general health of the patient did not suffer in the first instance. Her death occurred from an attack of dysentery.

An examination of the limb was instituted, and the enlargement was found to have been caused by the deposit of a lardaceous matter interspersed with fat into the subcutaneous cellular tissue. The muscles were small but of natural appearance. The principal venous trunks were much larger than usual, distended like injected arteries, and were patulous when divided. Their external coat was thickened, and, except in a few places, the middle and internal ones could not be traced, both being apparently converted into a thick fibrous tissue, disposed round the vessel in laminæ, not unlike the contents of an aneurism. The outer ones were of a firm texture, and pale brown colour. Those near the centre were soft and spongy. The same appearance existed in the smaller veins, some of which were completely impervious. The saphena was converted into a thick fibrous cord. The arteries were small and their coats thin.*

[The author regards the pathology of elephantiasis to consist in inflammation of the capillary veins; and considers that the disease bears an intimate relation to phlegmasia dolens, and the scleroma of infants, the apparent differences depending on the different degrees of venous obstruction.]

43. *Molluscum Contagiosum.*—Dr. Cotton gives an account of a family, consisting of father, mother, and six children. The disease first showed itself four months back, upon the arms and hands of the eldest girl, æt. 14 years, subsequently in the youngest, an infant, æt. 6 months, after three months in another daughter, and on the arms and chest of the mother, the father, two sons, and one daughter remaining free.

In every case it began in the form of round moveable tumours, of the size of a pin's head, gradually increasing to that of a pea, and presenting a central depression like that of smallpox. These small tumours were nearly covered with epidermis, and were red and shining, but soon became thick and wart-like from induration of the cuticle.

* Med.-Chir. Trans., Vol. xxx.

In this disease the surrounding skin is always free from irritation; the tumours are arranged in groups of two to six, which never coalesce, and they are occasionally pedunculated. During their early stage, an opaque white or cheesy-looking matter exudes from the central point on pressure; but as the disease advances, the contents of the tumour become hard and lobulated. This substance is composed of two distinct elements with an intermixture of epithelium and granules. The stromal substance consists of irregularly-waved fibrils, crossing each other in all directions; the intra-stromal is formed of spherical or elliptical cells more or less granular, but devoid of nuclei.

The small central depression, evidently formed by the closed opening of a duct, the lobulated form of their contents, and the absence of the tumours in those parts which are without sebaceous glands, clearly indicate these organs as the seat of the disease; but the difference between the contents and inspissated sebaceous matter, shows that mulluscum is not produced by mere retained sebaceous secretion. The disease, as observed by Dr. Cotton, appeared to have two modes of termination, either the secretion escapes before it becomes hard and the tumour consequently disappears, or it is retained, and, becoming indurated, gives rise to a permanent wart.

As the general health of all the patients was good, the author's treatment consisted in removing the tumours and checking the tendency to their production by frequent friction of the body with a rough towel. In their early stage, nitrate of silver was found sufficient; but when in advanced stages, the author removed them by knife or ligature, or pressed out their contents and cauterized afterwards with nitrate of silver. The last plan he thinks succeeded the best.*

PART III.—MATERIA MEDICA AND THERAPEUTICS.

SECT. I.—MATERIA MEDICA.

§ I.—*Medicines derived from the Mineral Kingdom.*

44. *Persesquinitrate of Iron.*—In 1832 Mr. Kerr pointed out the power of this medicine in chronic diarrhœa, and he is now led to call attention to it again as a remedy for Asiatic cholera. He states that an experience of eighteen years has confirmed his views of its great value. It is not, however, serviceable where ulceration of the bowels is present, and is therefore inapplicable in the diarrhœa of phthisis. He has also lately given this medicine with advantage in urticaria, and narrates a case which yielded speedily to it after resisting other remedies. It is also potent in allaying hiccup.

The formula which Mr. Kerr prefers for its manufacture is

Iron wire (No. 17), one ounce.
Nitric acid, three fluid ounces.
Water, fifty-seven ounces.
Muriatic acid, one drachm.

Mix the nitric acid with fifteen ounces of water, in an earthenware vessel capable of holding three or four times the quantity. Put into this the iron wire broken into a number of pieces; cover the vessel lightly. In eight or twelve hours the solution to be poured off, and the remainder of the water, with the muriatic acid, is to be added.

When properly prepared, this solution is the colour of dark brandy.†

* Edinburgh Med. and Surg. Journ., Jan. 1848.
† Monthly Journal, May 1848.

45. *Tartrate of Potash and Iron.*—M. Mialhe states, that though this preparation contains above 30 per cent. of the peroxide of iron, its ferruginous flavour is so slight that it will be tolerated by stomachs which resist other martial preparations. It has also the advantage of not constipating the bowels.* [We are in the constant habit of using this preparation in effervescence with carbonate of soda and tartaric acid, and can confirm the above remarks.]

46. *Iodide of Potassium, injurious effects of.*—M. Rodet has contributed a series of papers to the 'Gazette Médicale,' setting forth the ill consequences which follow the injudicious use of this valuable medicine, and the means of preventing them. We take the following remarks from a translation in the 'British and Foreign Medico-Chirurgical Review.'† The author adduces several propositions thus:

1st. In the physiological condition the iodide exerts its action on certain organs, and when this action becomes pathogenetic it is exerted upon one of these organs, or any organ which is already suffering irritation.

2d. The iodide will rarely, if ever, produce serious effects, if given only in cases which evidently require it.

3d. It is, in general, not well borne in cases in which mercury is indicated.

4th. The iodide acts the more favorably if the patient has not been treated by other measures. The author considers it a mischievous error to suppose that the iodide of potassium is an antidote to the mercurial cachexia.

Prevention. The author's precepts are, 1st, the medicine should never be given, except in cases where it is absolutely required. With the exception of syphilis, it is only efficacious in scrofulous diseases, and in glandular and other engorgements. In syphilis, M. Rodet advises that it should never be given in the primary or secondary symptoms, and always to employ it in the tertiary symptoms at first, and afterwards to associate mercury with it, if necessary, rather than increase the dose. [M. Rodet limits the advantages of this medicine too closely. Its power in chronic rheumatism, and its advantages as an auxiliary diuretic, are undoubted.]

2d. Iodide must be employed with the more circumspection in proportion to the quantity of mercury which has been previously taken.

3d. Whenever the disease for which iodine is given is complicated with inflammatory action of any organ, this should be subdued before the medicine is exhibited.

4th. The iodide should never be given in larger doses than is strictly necessary. [This strikes us as the most important caution of the whole. The medicine is too frequently given in excess in this country as well as abroad; and this it is that causes it to fall into discredit.]

§ II.—*Medicines derived from the Vegetable Kingdom.*

47. *New Vehicle for holding Camphor in Solution.*—Sir James Murray proposes a new vehicle for holding camphor in solution, which may be exhibited in doses considerably greater, and with less irritation, than it has hitherto been given. It was known that camphor is insoluble in water, and that when given in almond emulsion it very readily separates on the addition of water, and that the same separation takes place on adding water to a solution of camphor in spirits of wine. The opinions respecting the effect of camphor are various. Some describe it as a stimulant, and some as a sedative; but this difference of effect

* Union Médicale, No. 2, 1848. † April 1848.

depends mainly on the quantity given. Now, Sir James Murray has found that the fluid magnesia was capable of dissolving camphor to the extent of three grains to the ounce of the solution, and that adding water to the mixture did not cause any cloudiness or separation of the camphor. An ounce of this solution contains three grains of camphor, which appears perfectly clear, like water; and if anything is added to the solution capable of withdrawing a portion of the water, such as dry common salt, a rough estimate may be formed of the quantity of camphor which it contains. To employ camphor as a sedative, it must be given in large doses; but it is also necessary to have it perfectly dissolved, for when free it acts as a powerful stimulant. It is obvious, then, that given for this purpose it would not do to employ the camphorated spirit, nor will the solution in emulsion be any better, as it readily separates from it in the stomach. We have therefore, he observes, a menstruum in the fluid magnesia, which answers better than any method hitherto known.*

48. *Lycopus Europæus.*—This plant is recommended as a substitute for quinine. It is given either as a watery or as an alcoholic extract. Its active principle is termed lycopine.†

49. *Santonine.*—M. Taccinei suggests that this medicine should not be given in combination with a purgative, when our object is to destroy intestinal worms. It should be allowed to remain some time in the intestines before a purgative is exhibited; by which means the destruction of the parasites is more surely accomplished.‡

50. *Adansonia Digitata.*—This is another substitute for quinine, introduced by M. Duchaissaing. Numerous trials justify him in affirming that the powdered bark possesses strong febrifuge powers, and has an agreeable taste. It is said to have succeeded when bark had failed. Dose: One ounce of decoction.§

51. *Asparagine.*—This is the active principle of asparagus, and is suggested as advantageous in heart diseases. Its effects are sedative.||

52. *Quinine, Poisonous Effects of.*—Our readers, by referring to Vol. III, Arts. 2 and 3, will see that quinine is given in Florida, and other miasmatic portions of the new world, in very large doses; and it is maintained that no ill consequences are to be observed. The contrary is, however, maintained by Dr. Baldwin, who shows that this practice is really attended with danger, and states, in one instance which came under his own eye, a much smaller dose occasioned death. Children present greatly less tolerance of the remedy than adults. In the fatal case, eight grains given in two doses, with an interval of three hours between each dose, to a child of six years, brought on dilatation of the pupils, extreme restlessness, convulsions, blindness, and death. In another case reported by Dr. Baldwin, sixty-eight grains introduced into the system in the course of twenty-four hours, induced the train of symptoms characteristic of the poisonous action of this drug, viz. tremors, slow and irregular breathing, restlessness, dilatation of the pupils, blindness, and convulsions.

Several authors (Mérat and de Lens, Duval and Trousseau) mention cases in which serious effects have ensued from the immoderate use of quinine. Melier (Mém. de l'Acad. de Méd., tom. ix) says that the following effects have been distinctly observed to result from large doses of quinine in man: delirium and coma, pneumonic symptoms, hematuria, amaurosis, deafness. convulsions, paralysis, and death.

* Dublin Medical Press, Dec. 15, 1847. † Gazette Médicale, No. 6, 1848. ‡ Ibid. § Ibid., March 1848. || Revue Med. Chir., Jan. 1848.

Startled by the serious results occasioned by the use of quinine in the cases above noted, Dr. Baldwin commenced a series of experiments on animals, with the view of determining its poisonous action. He found that the symptoms developed in animals by poisonous doses of quinine were general restlessness, speedily followed by "muscular agitation, or tremulous movements of the body and extremities, with a constant motion of the head resembling somewhat paralysis agitans. When under the full operation of the poison, the power of locomotion, and even of standing in the erect position, was altogether lost, and the extremities apparently paralysed." Great excitement of the vascular system is said to have been present, the pulse rising to 110, and in some to 240 beats in the minute, accompanied with great oppression of breathing and frothing at the mouth. The pupils were much dilated, and, as far as could be judged, vision was entirely lost—convulsions were observed in every case but one. "In a few instances, the subject seemed as if stunned by some sudden blow, or a violent fit of apoplexy; the latter effect was only observed when it was given to young dogs by the jugular vein or peritoneum." Purging was present in some cases; and when the medicine was given by the stomach, vomiting invariably ensued, unless the œsophagus was tied.

The time required to produce death varied greatly; in some instances 15 to 20 grains proved fatal in a short period; while in other animals, on administration of 120 grains, death occurred only after a long period: peculiar idiosyncrasies, as in the human subject, appearing to favour or retard its action as a poison. The quinine was in some cases introduced into the stomach, in others injected into the peritoneum and into the jugular vein. Its effects were equally exhibited by each mode of administration, but not with more certainty or force when given in one way than in another. The chief post-mortem appearances were "a dark, fluid, and defibrinated condition of the blood," a congested state of the lungs, and a "vascular and highly-injected state of the stomach and bowels," and congestion of the vessels of the brain.

The results obtained in Dr. Baldwin's experiments coincide with those obtained by others.—(Melier, Mém. de l'Acad. de Méd., tom. x. Giacomini Dict. de Med., vol. xxvi.)*

53. *Muriate of Opium.*—Dr. Nichol recommends this as the best preparation of opium, never inducing headache.

It is made as follows:

Take of the best powdered opium, ʒj.
Muriatic acid, ℥j.
Distilled water, ℥xx. Mix.

Shake this mixture very frequently every day, during fourteen days, then strain and filter. The dose is from twenty to forty drops, according to circumstances. Many of my medical friends have tried this preparation, and they highly approve of it.

SECT. II.—THERAPEUTICS.

54. *Anæsthetic Agents.*—Whatever sensation may have been excited by the occurrence of fatal cases from the inhalation both of ether and chloroform, it must be acknowledged by those who do not wilfully shut their eyes to the onward progress of medical science, as well as to the claims of humanity, that the exhibition of these agents for the amelioration of physical pain, will

* Southern Med. and Surg. Journal, and Monthly Journal, May 1848.

henceforth form an integral portion of our therapeutical resources. There perhaps has never been an instance in the history of invention, of a discovery having in so short a time taken so great a hold on the public mind, or having been so thoroughly and extensively investigated. Such, indeed, has been the avidity with which these agents have been used, and so great the readiness in giving to the world the results of individual experience, that our task of reporting upon the mass of papers lying before us from all parts of the globe appears insurmountable, and we might reasonably pause on the threshold of our analytical endeavours, were it incumbent upon us to notice *all* the communications which have been forwarded to us, or extracted from various journals. This, however, is as unnecessary as unprofitable; and we shall consider that we have done all that our readers will expect of us in giving a brief analysis of the more important. In this Report it is our intention only to allude to anæsthetic agents in their general therapeutical capacities. Their special applications in surgery and midwifery will be given in our Reports on these subjects respectively.

55. Ether.—We have given so detailed an account of the anæsthetic properties of ether in a former Report, that we shall not here begin *ab initio*. It had, indeed, become at one time a question whether this agent would not be entirely superseded by chloroform; such, however, was not found to be the case, as there are several writers who even now prefer ether under *all* circumstances to chloroform, and there is a still larger number who hold that it is preferable under *certain* circumstances.

56. *Fatal Case from Ether Inhalation.*—In our former Report we expressed the opinion that the cases then adduced as fatal from the influence of ether vapour were far from satisfactory, as establishing that point; but in the following case, which occurred in the Hôtel Dieu, it is more probable that death was really to be attributed to the vapour, as there was nothing in the nature of the operation itself, or the patient's previous condition, to account for the fatal result.

On the 10th July, a man æt. 55, of robust constitution, was etherised for the removal of a tumour. After inhaling two or three minutes considerable agitation was observed in the face and limbs, during five minutes more the inhalation was continued, and complete insensibility induced. The first incision was performed, when the dark colour of the patient's countenance attracted the operator's attention, and the man almost immediately expired. On dissection, the viscera exhaled a powerful odour of ether, the blood was viscid, and the lungs were deeply congested.*

57. *General Effects of Ether.*—Mr. Wells has published the results of the inhalation of ether in one hundred and six cases, including various operations. He states that no serious ill effects followed in any case. In only one was uneasiness excited: this was a little girl, who, although not more than a minute under the influence, suffered from vomiting and fainting for nearly an hour, and remained for eight hours in a state of complete intoxication. The operation being only that for the cure of strabismus, could not have induced any such condition. In three delicate women, hysteric laughing and crying followed, but never lasted more than a few minutes. One young lady appeared to be in a profound sleep for four hours, but on recovery said she had been quite sensible of everything that had occurred during all this time, although she was quite incapable of either speaking or moving. In no male was any ill effect observed. The wounds in every case presented a healthy appearance, and the processes of granulation and cicatrization were apparently

* Journ. des Connais. Méd.-Chirurg.

in no way affected by the etherization of the patient. In nine cases the inhalation was discontinued on account of suffocative feelings or convulsive motions of the patient; in fifty-two the patients either cried, started, or moaned during the operation, but, on recovery, said they had felt no pain, although, in fourteen instances they were conscious of what was being done; in forty-five the success was complete, the patients giving no sign of sensibility during the operation, and on recovery appearing quite ignorant that anything had been done. The sensations described by different persons were extremely various; generally there was some heat in the mouth and difficulty of breathing, followed by vertigo and conscious loss of muscular power preceding insensibility. By some, pleasant dreams, indescribable but delightful sensations, rapid flights through the air, gorgeous visions, and unearthly music, were described in glowing language; by a few others, a sense of great oppression, resembling nightmare, was complained of; in many others as total a temporary suspension of all the mental faculties and cerebral functions had taken place, as in the most profound sleep, nothing being remembered after the first few inhalations until the period of returning consciousness. In those cases where flushing of the face, turgescence of the neck, or convulsive motions, led to a discontinuance of the inhalation, nothing more than difficulty of breathing was complained of.*

58. Chloroform.—This anæsthetic has now been so extensively employed that we are warranted in coming to some definite conclusions respecting its merits. That it is a more powerful agent than ether cannot be questioned, as the insensibility which it occasions is more profound, and produced with greater rapidity. For this reason, however gratifying it is to be in the possession of such a resource, it cannot be denied that in inexperienced hands it is less safe than ether, and in all cases requires to be exhibited with more caution. One of its properties, which every one who uses it should be well acquainted with, is its tendency to cumulative action, that is to say, the insensibility produced by it will often become more and more profound after the cessation of the inhalation. We have known sleep to be induced some minutes after the inhaling had been suspended, the patient at the time of taking the sponge away being perfectly conscious. This property is alluded to by Dr. Snow (Lancet, Feb. 12), and also by M. Sedillot.

It would appear, from the tenor of several communications, that a great difference exists in the different samples of chloroform which have been submitted to the public. It is only in this way that we can explain the great variety of effects which have been met with. As it is of importance that an agent so powerful should be prepared with as near an approach to uniformity as possible, we shall give the most recent formula for its preparation.

59. *Preparation.*—M. Soubeiran recommends a mixture of ten parts of chloride of lime and 60 parts of water. This is to be introduced into a copper alembic, which it should only two thirds fill. Two parts of alcohol are then to be added, and distillation commenced. At the period when the heat has risen to 170°, a difficulty occurs from a tendency to boil over; at this time the fire must be reduced, when the distillation will proceed tranquilly. To obtain the chloroform, the upper and lighter fluid is decanted, and the lower stratum is washed with carbonate of soda, and afterwards rectified on chloride of calcium. M. Soubeiran does not consider a redistillation with sulphuric acid to be necessary.†

* Med. Gaz., Sept. 1847. † Journal de Pharmacie, Dec. 1847; and Lancet, Jan. 1848.

Of several samples which we have had an opportunity of testing, the most pure appeared to be some which was forwarded to us by Duncan and Flockhart, of Edinburgh, prepared under the superintendence of the discoverer, Professor Simpson. This was a perfect clear and limpid fluid, free from the straw-coloured tinge which we have observed many specimens to possess.

60. *Physiological Effects.*—Experiments with chloroform have been recorded by the Medico-Chirurgical Society of Edinburgh, and by Mr. Wakley, jun.: the latter consisting of a series of 100 observations on various animals. From the result of these it would appear that there is no material difference in the gradation of effects produced between chloroform and ether, the action of each being distinguished by several stages, indicating its successive operation upon the different divisions of the nervous system. Dr. Snow* considers that these different degrees of variation depend upon the different preparations of vapour dissolved in the blood at the time. For producing the second degree of insensibility, in which there was loss of consciousness and impairment of voluntary motion, $\frac{1}{36}$th part of what the blood would dissolve was found sufficient; for producing the fourth degree when all voluntary power is abolished, 1/[illegible]th was required. The experiments for determining these points consisted in ascertaining the smallest quantity of vapour, in proportion to the air, which would suffice to induce a given effect, and were performed in the following manner:—A small quantity of the liquid to be examined was weighed, and put into a very large glass jar, carefully closed, and when the vapour was equally diffused, a small animal (generally a bird, or a mouse) was introduced, which was allowed to remain for some time after the effects of the vapour had ceased to increase. At the point at which the effects became stationary the tension of the vapour in the blood balanced the tension of that in the air in the lungs, at the temperature of the body, which being already known, the quantity in the blood could be calculated. The results obtained agreed with experience as to those vapours which had been administered to patients. Chloroform required about 288 parts of serum of the blood to dissolve it; and taking M. Valentin's calculation, that the human body contains, on an average, about twenty-six pounds of serum, it was found that twenty-four minims was the twenty-eighth part of the quantity the blood would take up—the quantity, consequently, for producing complete insensibility. When allowance was made for the vapour, which reached no further than the trachea, and was, therefore, not absorbed—this agreed with experience. The quantity of ether required was found by calculation to be considerably larger, on account of its much greater solubility; and these experiments showed the cause of the rule he had stated on another occasion, that the more soluble a volatile substance was, the greater was the quantity required to produce a given effect; and that, consequently, when the volatility was taken into the account, the strength of this class of substances was in the inverse ratio of their solubility. He considered that the vapour of these substances did not become decomposed, or enter into any chemical combinations in the body, but produced its effect by its mere presence, impeding those combinations between the oxygen in the arterial blood and the nervous tissues, on which the functions of the nervous system depend.*

61. *Influence of Chloroform on the Blood.*—From experiments on dogs, Mr. Gruby has ascertained:

1st. The arterial blood is more red (at least, as red) where chloroform has been inhaled, than (or as) where it has not.

* Lancet, May 13, 1848.

2d. The venous blood becomes of a clear red colour under the use of chloroform, losing its usual reddish-black tint.

3d. Venous blood in an animal under the influence of chloroform is more red than non-chloroformized arterial blood, and nearly as scarlet as such blood when penetrated by chloroform.

Hence it would appear that chloroform, far from rendering the hue of arterial blood venous, augments the intensity of its red colour; and, more than this, that it imparts the arterial colour to venous blood.

In his experiments, M. Gruby was careful to use an instrument which allowed a due supply of atmospheric air to mix with the vapour of chloroform in inhalation; and to the omission of this precaution he would, in a great measure, attribute the different results which have been obtained by others.*

62. *Effects of Chloroform and Ether on Animal Temperature.*—MM. Dumeril and Demarquay have communicated to the Academy of Sciences a series of experimental researches on the modifications of animal temperature produced by ether and chloroform, and on the physiological action of those agents.

They state that the temperature is peculiarly lowered in animals submitted to the influence of the vapour of those intoxicating agents; that this depression is greater from ether. This effect is constant, whether the vapour be introduced into the respiratory passages, or into the rectum. Section of the pneumogastric nerves, almost simultaneously with the application of the inhaler to the mouth, does not modify the results obtained when those nerves are uninjured. The temperature is depressed also during reaction, consequent on the section of one of the pneumogastric nerves, twenty-four or forty-eight hours before inhalation. The authors further believe that these facts warrant the conclusions, that ether does not act primarily in the manner of an asphyxiating agent, but that the asphyxia induced is but a secondary effect following the penetration of its vapour into the economy; that the phenomena of etherization set out from the disorder they induce in the central nervous system; that the asphyxia is but consecutive, and if fatal, it is because etherization has lasted so long as to abolish the functions of the medulla oblongata, the last part of the nervous centres acted upon by the agent.

They further state that a loss of sensation, together with a depression of temperature, is brought about also by brandy; but that narcotics, instead of lowering animal heat, raise it, save for a very brief period, immediately after their ingestion.

The injection of ether-vapour into the rectum shows that, apart from the disorder of the respiratory function, there is a depression of temperature, which must arise from a special action of the nervous system. If, then, the source of animal heat be in the process of blood-making, and the latter be immediately dependent on the nervous system, the possibility of a modification of temperature by any cause acting primarily upon that system is at once seen.

As a further result of their experiments, MM. Dumeril and Demarquay state that the action of ether and of chloroform is rapidly fatal, since they have seen it destroy dogs in thirty-five or forty-five minutes, and even in less time, with reference to chloroform.

63. *Pathological Effects.*—The physiological action of chloroform and its pathological action, may be regarded as differing only in degree. When carried beyond a certain point in all individuals it is capable of producing death,

* Bulletin des Académies.

and short of this convulsion, and a depth of insensibility, which may be considered as a pathological condition. There are, however, certain persons who appear peculiarly susceptible of its agency, and in them unpleasant if not dangerous symptoms are induced when least expected. Many such instances, which it is unnecessary to particularise, have been placed on record; the unpleasant effects being chiefly *vomiting*, especially when inhalation follows soon upon a meal; *headache* persisting for several hours; *hysteric* or *tetanic* convulsion; and formidable *depression* of the heart's action.*

64. *Fatal Cases from Chloroform.*—That chloroform will destroy life is well known from the experiments of Mr. Wakley and Dr. Glover on the lower animals; but it is satisfactory to know that as yet there have been only three, or at the most four, cases in which death in the human subject has been attributed to this agent. The first instance, which excited great attention at the time, occurred in the practice of Mr. Meggison, a surgeon at Newcastle, is given below in this gentleman's own words.

"I much regret that the melancholy duty of communicating what I believe to be the first fatal case of the administration of chloroform should devolve upon me; but I consider I should not be doing my duty to the profession generally did I not make public this case. The patient a fine-grown girl of fifteen, had been suffering for some time past from onychia of the left great toe, the matrix appearing involved extensively. After consulting with Mr. Lloyd, my assistant, we deemed it absolutely necessary that the nail and matrix should be completely removed. I ought to say that, about a year previously, the nail of the great toe had been removed at the Newcastle Infirmary; but, the matrix having been left, the disease had spread, and induced necrosis of the distal phalanges of the toe, rendering amputation necessary, the propriety of which we merely urged, thinking to do it after the operation had been performed on the other foot.

"During the previous operation she was under the influence of ether, and said she felt no pain nor inconvenience from it except a severe headache afterwards, and great uneasiness during the inhalation, from irritation of the fauces. We assured her she would feel none of that irritation from the use of chloroform, and that in the cases in which I had used it the headache, if any, had been transient. The whole of the day previous to the operation she had been fretting much, and apparently dreading it, crying continually, and wishing she were dead rather than submit to it. In this state we found her on Friday last, at noon, when we went to perform the operation. We endeavoured to console her, and calm her fears, assuring her that she would not feel it, and urging her to be more collected, but in vain. She sat down in the chair sobbing. I poured a teaspoonful of chloroform on a handkerchief, and, on applying it, she drew her breath twice, and pulled my hand down. I asked her to put her hands on her knees, which she did, and breathed quietly for about half a minute, when, no stertorous breathing or change of appearance supervening, I lifted her hand, and, finding it rigid, requested Mr. Lloyd to remove the nail and matrix. This was dexterously done with one sweep, at the termination of which she kicked out, and I, thinking the chloroform not sufficiently potent, was proceeding to apply more to the handkerchief, when her lips, which had been previously of a good colour, became suddenly blanched, and she spluttered slightly at the mouth as one in epilepsy. I threw down the handkerchief, and gave her cold water immediately, followed by brandy. This, however, had not the least effect, not the slightest attempt at rallying being made, and in a minute more she ceased to breathe. A vein

* Vide Paper by Dr. Nevins, Med. Gaz., March 3d; by Mr. Stewart and Dr. Gull, ib.

in the arm was opened, as also the jugular, but no blood would flow. The whole process of inhalation, operation, bleeding and death, could not, I should say, have occupied two minutes."

The body was examined after death, and it was found that the lungs exhibited the greatest amount of pathological change, being congested to a degree very unusually met with.

This unfortunate case, as might be expected, has excited very considerable discussion; the opponents of chloroform making the most of it to deter the public from submitting to its agency; its advocates seeking to establish some other explanation of the fatal event than that arising out of the direct action of chloroform.

Foremost among the latter is Professor Simpson, who endeavours to prove that the girl did not die from the effects of chloroform, but was in fact asphyxiated by the means adopted for her restoration. With this object, Dr. Simpson points out, in the first place, the small dose employed, and the fact, that at the time of the operation, and immediately after it, the girl was not in a state of very deep anæsthesia, as she kicked and moaned, and her breathing and pulse were unaffected. While still torpid and lethargic, however, and perhaps in a state of fainting after the operation, the surgeon, unfortunately, filled the patient's throat and mouth with water and brandy, with the intention of reviving her. But this fluid she was incapable of swallowing in her partially faint and anæsthetic state. Consequently, at the first returning attempt at inspiration, a quantity of the fluid entered the throat, and the patient was instantly and fatally suffocated. She was choked or asphyxiated by her respiration being prevented by the layer of fluid placed over the top of the windpipe; and to produce this suffocating or drowning effect in her then torpid state, it mattered not whether the layer of fluid were ten lines or ten fathoms in depth—whether it merely covered and submersed the opening of her windpipe, or covered and submersed her whole body. She was directly asphyxiated or drowned, by a *sufficient* quantity of liquid being placed for this effect over and around the entrance of the larynx.

Dr. Simpson then remarked, that the appearances observed after death in the congested lungs, trachea, epiglottis, &c. &c., of the Newcastle patient, were, one and all of them, precisely those observed after choking or drowning (which he showed by referring, in detail, to the published observations of Dr. Copland, Carpenter, &c., on these points); while they were quite different in some essential particulars, from those observed in the bodies of various animals killed intentionally by chloroform-inhalation, by a committee of the Medico-Chirurgical Society of Edinburgh. Thus, for instance, in the Newcastle patient, the blood was found after death fluid in the heart (as it is in all rapid cases of simple asphyxia and drowning); while the Edinburgh committee found the blood firmly coagulated in the heart in every animal which was made to inhale chloroform to a fatal degree.

The Professor next pointed out that death would inevitably occur to any person in deep apoplexy, narcotism, &c., if during these lethargic states the mouth in the same way were filled with liquid, so as to prevent the entrance of air, and the power of swallowing were at the same time temporarily suspended. The Newcastle patient was reported as having died "from the effects of chloroform; but she died from the effects of artificial asphyxia when chloroformed. If a man were made insensible by opium, and then asphyxiated by a wet towel being laid over his nose and mouth, no one would report that he had died "from the use of opium," but from the effects of artificial asphyxia when opiatised. Dr. Simpson expressed his sincere conviction, that if the patient had been simply left alone, and *nothing* had been done, she would have rapidly

recovered, like all other patients, from the state of anæsthesia. It was the means used to revive her that produced death; not the chloroform-inhalation. He then went on to say, that in any case where the anæsthesia remained too deep or too long, the adoption of artificial respiration formed the proper measure of resuscitation—not the prevention of all respiration, by filling the mouth and throat by stimulant or other fluids. In a paper on chloroform, written in November last, and published in the 'Monthly Medical Journal,' Dr. Simpson had warned the profession that chloroform was an agent so potent as liable to produce serious consequences, and even death, when improperly used. He said he had for some time expected to hear (though the present case was not one) of fatal results from it alone, knowing, as he did, the many thousand cases in which it was now constantly employed in Great Britain and throughout the Continent. Dr. Simpson commented on the immense quantity of chloroform already made and sold here and elsewhere, and on the consequent vast numbers of persons that must have been already safely placed under its influence; and he stated that perhaps the use of as many thousand common doses of any of our common medicines, such as opium, antimony, senna, &c., by as many thousand different persons and constitutions, would probably scarcely have been accompanied with equal safety and equal impunity in the results. He cited several cases in which (before the introduction of ether and chloroform) surgical patients had died on the operating table ere the operation was begun, during it, or immediately after it was finished; and when the operation was by no means severe. Every such case happening for years to come will, of course, be eagerly ascribed to chloroform, though such things not unfrequently happened long before chloroform was ever known. And supposing even it did prove fatal, when indiscreetly managed, in one rare case in a hundred thousand, it would be no reason to argue against its utility, any more than there would be reason in arguing against the utility of coaches and railways, on the ground that occasionally, from carelessness, an accident or death occurred among the passengers. He concluded by stating that he had the satisfaction of believing that, by saving much human suffering and agony, chloroform had already saved much human life. Such a case as the present was well calculated to teach a salutary degree of caution; but it could and would do no ultimate injury to the general adoption and spread of the practice of anæsthesia.

—On the other hand, Dr. Snow, who took part in the discussion on the case, does not hesitate to admit that the chloroform was the cause of death, and attributes it to the rapidity with which it was administered, and the concentrated form in which the vapour was consequently inhaled. He, as we have before stated, has noticed the cumulative action of the vapour, and that it is therefore not possible to judge of the ultimate effects of the inhalation from the effect produced at the time the inhalation is discontinued. This cumulative action would of course be proportionably great, as the inhalation was rapid, and the vapour concentrated.

We are disposed to adopt Dr. Snow's explanation in preference to that of Dr. Simpson; but we do not on that account consider any fair objection to the use of chloroform can be deduced from it, nor, indeed, had the deaths been fifty instead of one or two; the proportion is so small in comparison with the thousands of instances in which benefit has been derived, or at least no injury sustained, that we should still have less reason to abandon its exhibition than we have for abolishing the use of opium.

—The second death from chloroform occurred in the person of a chemist's apprentice, who was in the daily habit of using it by pouring it upon his handkerchief. While inhaling in this manner, his head appears to have fallen

forward upon his saturated handkerchief, which he had placed on the counter, and he was therefore as effectually destroyed as were the animals in Mr. Wakley's experiments.

65. *Therapeutical Application.*—Chloroform has been used with variable advantage in many diseases of the nervous system. In *delirium tremens* it has been found to produce sleep after the failure of large doses of opium. In *mania* it has tranquillised the patient, but without producing any permanent benefit. In *tetanus* it has been successful in one case; in others it has aggravated the symptoms. In *chorea* it has failed. In *neuralgia* it has been very serviceable when the pain did not depend upon organic disease, or was not accompanied by symptoms of cerebral disturbance.

A marked instance of its advantage in *infantile convulsions* has been recorded.

It has also been given advantageously in *asthma*, to subdue the *cramps of cholera*, in *renal colic*, and in *dysmenorrhœa*.

Since that his attention has been given to the subject, some of the fluids have been discovered and tested by Dr. Simpson, which are capable of inducing anæsthetic insensibility. These are thus described by Dr. Simpson:

66. *Chloride of Hydrocarbon.*—This is one of the fluids to which the name of chloric ether was for some time given. It is composed of four atoms of carbon, four hydrogen, two chlorine ($C_4 H_4 Cl_2$), sp. g. 1·247, boils at 148. Dr. Simpson states, that it can rarely be inhaled so as to produce perfect insensibility, on account of the irritation of the fauces which it causes; but in one case in which it was perseveringly inhaled, anæsthesia was induced, without excitement of the pulse or subsequent headache.

67. *Nitrate of Ethyle* is a transparent, colourless fluid, made by distilling two parts alcohol, one part of nitric acid, and a small quantity of urea. Its formula is ($C_4 H_5$) O. NO_5. It is easy and pleasant to inhale, and possesses rapid and powerful anæsthetic properties. It, however, generally produces great headache and giddiness.

68. *Benzin* is a clear, colourless liquid. Its formula is C_2 H. Dr. Simpson found this also to produce great subsequent cephalic disturbance. Dr. Snow found it succeed very well in four cases of tooth-drawing; but he does not consider it suited to severe operations.

69. *Aldehyde.*—This is a limpid, colourless fluid, with a formula of $C_4 H_3 O + aq$. It was found by Dr. Simpson to be all but irrespirable.

70. *Bisulphuret of Carbon.*—This fluid is obtained by passing the vapour of sulphur over fragments of charcoal heated to redness in a closed porcelain tube. It is clear and limpid, with a specific gravity of 1·272. Dr. Simpson found it a rapid and powerful anæsthetic. Some persons described it as pleasanter to inhale than chloroform; but in others it produced disagreeable headache and prostration. It is not, in his opinion, to be compared to chloroform either in manageableness or effects.*

71. In connexion with the subject of anæsthetics, we may mention a paper by Dr. Silvester on the ancient mandrake, Atropa mandragora. This paper displays considerable research, but is a disquisition rather curious than useful.†

72. *Cod-liver Oil.*—We have to record certain recent communications upon the powers of this medicine. The following account of the chief forms of

* Monthly Journal. † Medical Gazette, and Pharm. Journal, May.

disease in which it has been found useful is taken from an essay on the "History of the Fish-liver Oil," published in the 'Gazette Médicale de Paris.'

Chronic rheumatism.—According to Alexander, Knood von Helmendstreit, Amelung, Brefeld, Basse, Fehr, Galcoma, Mall, Moeunig, Munzenthaler, Michaelis, &c., who have all published their own observations concerning the fish-liver oil in chronic rheumatism, this medicine possesses such an efficacy in this disease that it surpasses in their eyes all the other remedies, without excepting the most lauded anti-rheumatics.

This opinion of different physicians, who have all experimented by themselves, cannot be taxed with exaggeration, if it is considered that amongst these cases there are found numerous instances of rheumatic patients being cured, who, after many years of suffering, and usage of all sorts of remedies, having lost their strength and despairing of cure, were completely cured by the aid of the fish-liver oil.

Rheumatic sciatica.—The fish-liver oil did not prove less efficacious in this form of chronic rheumatism, which is generally distinguished by its obstinacy; this i[illegible]ified by the observations of MM. Knood von Helmendstreit, Rust, Ame[illegible] Münzenthaler, Settenger, and Spit[illegible]

Scrofulous diathesis.—Although there are various observations published in support of the excellence of this oil for certain severe forms of confirmed scrofula, it requires something, candidly speaking, which will prove its efficacy in the scrofulous diathesis with certainty. The cause of this doubt ought not to be looked for in this circumstance, that the liver oil is less applicable in the scrofulous diathesis than in certain of the more severe forms of scrofula, but that the greater part of physicians are in the habit of only publishing their observations of the more severe cases. But if we consider that the scrofulous diathesis is the principle from which emanates, by the accession of aggravating circumstances, all the numerous and often dangerous forms of scrofula, and that the liver oil is in our eyes a true specific for the more severe forms of this affection, it is evident that this medicine is that which ought to counteract this principle with most certainty. Such is the opinion of M. Brefeld and Dr. Galama, who say that the liver oil is the most efficacious remedy for the scrofulous diathesis, and for no matter what form of confirmed scrofula.

Confirmed scrofula.—Amongst the facts relative to the use of the liver oil in some of the manifold forms in which confirmed scrofula is presented, the most remarkable are those which Drs. Brefeld and Roppe have made known, the result of which is that this medicine universally is fit for all forms and kinds of scrofula. The principal forms of scrofula in which it has succeeded are given below.

Swelling of the lymphatic glands.—Under this title we have only to do with the swelling of the superficial lymphatic glands, situated immediately under the skin, in the region of the throat, to the nape of the neck, armpits, or groins.

The fish-liver oil is considered a certain and infallible remedy in swellings of the lymphatic glands which appear oftenest, first under the form of hard unequal tumours, nearly immoveable and insensible, but which afterwards, when inflammation has laid hold of the cellular tissue which surrounds them and the skin which covers them, they become inflamed, and suppurate in their turn. The cure always requires a much longer time where these swellings are connected wlth a confirmed scrofulous diathesis. This also can be advantageously influenced by the external use of the oil by frictions on the painful and inflamed tumours; this way of employing the medicine is that which has prevailed and which is recommended by the greater number of practitioners in this form of scrofula. But if the fish-liver oil is efficacious in swelling of

the lymphatic glands of a scrofulous origin, it is absolutely useless in swellings of the same glands which are the consequence of smallpox, measles, of scarlatina, or even those which are developed in the course of syphilis, or of a carcinomatous affection.

Scrofulous ulcers.—The effect of this medicine is quicker and more remarkable in scrofulous ulcers, with fungous and irregular borders, generally so difficult to cure, which arise either from suppurative inflammation of lymphatic glandular swellings, or from the dissolution of those indurated strumous tumours which are found so often in subjects of a scrofulous constitution, in all parts of the body indifferently. It has the same effect also in different traumatic lesions which so frequently become the origin of ulcers in subjects of a full scrofulous habit. Dr. Brefeld relies greatly on the external use of this oil, with which he prepares an ointment which he applies to the ulcers by means of a pledget. In one case notwithstanding, treated by the oil internally, the result was as favorable. The strumous tumours, of which we have referred to above, and which ought to be distinguished from lymphatic glandular enlargements, are perfectly cured by the fish-liver oil, even after that they have passed into the ulcerous state, provided that the oil be administered in proper time; it was the same in the case of the tumour being on the point of becoming an abscess. The tumours decreased during the internal and external administration of the medicine, and it seems they became dried up.

Chronic exanthemata.—The fish-liver oil has been proved equally efficacious in the chronic exanthemata which are developed under the influence of a scrofulous diathesis, whether they occupy parts of the body covered with hair or places which are destitute of it.

In this case some say they have obtained the best results from the internal use of the oil, while others pretend, on the contrary, to have obtained as good results by the external use of the same remedy. The usage of it externally, tried for the first time with success by Dr. Guerard for scald head, is principally recommended by Dr. Brefeld, and who pretends, what is more, not to have obtained any good result from the internal use of the liver oil in the exanthematous form of scrofula.

The milky scurf, so often observed in ill-nursed children, in whom there has never before been observed any symptoms of scrofula, and which, according to Dr. Brefeld, forms the transition of true scrofulous exanthemata; the exanthemata which are observed on the long-haired skin of young children, and which often envelopes the whole face; scald head, which is not uncommon to see last till the age of puberty; and, finally, the scrofulous exanthemata which comes out on every other part of the body, were quickly cured, according to Dr. Brefeld, by the external use of the liver oil, and even after that in some cases they had for a long time used the internal treatment in vain. Experience taught him that the use of the liver oil, either externally or internally, had no effect on malignant, hereditary, or contagious scald head, even when combined with oil of turpentine by the advice of Dr. Marteus; the same may be said of some psoriacal and syphilitic exanthemata.

Dr. Hauf reports a case of humid herpes causing an insupportable pruritus, which, after having resisted all sorts of remedies, was cured by the use of friction of fish-liver oil.

Rachitis.—The fish-liver oil is, without exception, the best remedy for rachitis, in all its stages, and under whatever form it presents itself; such is the nearly unanimous opinion of the German and Dutch physicians, who affirm with one accord that it is much superior to any of the so-called antirachitic remedies. According to Dr. Schmidt, who has most insisted on the

advantages of this medicine, in twenty-one rachitic patients which he had treated at the time when he made known his results, thirteen were cured, four were in process of being cured; as to the others, judging from the progress which they had made for the little time they were under treatment, a very favorable prognosis might be drawn.

In France, far from partaking of the enthusiasm of the German physicians for this medicine, they have kept on their guard, perhaps with an exaggerated distrust; its efficacy in rachitis has nevertheless appeared to some placed beyond doubt. We have said that M. Bretonneau, and M. Trousseau, by his example, had obtained good results. It is in these terms that Professor Trousseau expresses himself on this subject: "We have often obtained cures, the rapidity of which surpassed our expectation. Sometimes, after four days of treatment, the sharp pains which the children felt in all their limbs ceased; and the bones which could be bent, acquired, at the end of five days, a considerable solidity."

General conclusions.—Chemical researches have taught us that the fish-liver oil ought to be considered as a very compound medicine. Greasy neutral matter, bilious matter, iodine, phosphorus, each of them well known as possessing great therapeutic efficacy—also a certain number of organic elements, such as butyric acid, gaduine, and some others, the medical action of which is less known—finally, various inorganic salts, as the phosphate and sulphate of lime, chloride of lime, phosphate and sulphate of magnesia, are the substances of which it is composed.

But it may be asked, to which of these components does the oil owe its special virtues? Is it to the iodine, fatty matters, phosphorus, or other principles?

If the diseases for which the liver oil is administered with success be duly reflected upon, it cannot escape any one that there is in each of them various indications to fulfil to obtain a cure. For the most part, there is debilitated digestion to be excited, nutrition to be regulated, secretions to be re-established, and the lymphatic system to be stimulated; while, on the other hand, the modifying of the organic nervous system is presented as one of the most important indications to be fulfilled. Neither the bilious matter, nor the fatty matter, nor the iodine, nor any other principle, whatever it may be, taken alone, is capable of satisfying at the same time all these indications, and it is not to any of these substances in particular that the fish-liver oil owes its medicinal properties, and the faculty of fulfilling so different and so numerous indications. But it is by the union and co-operation of, if not all, at least the greater number of these substances.

In this state of things, the active principle of the fish-liver oil cannot be discussed in particular, like the active principle of cinchona; but attention ought to be paid, if not to all, at least to the principal elements of the oil, as each of them, satisfying special indications which the diseases for which this medicine has been proved efficacious, present.

The medical researches having proved that the black fish-liver oil is more efficacious in rheumatism and scrofula than the other species, and the chemical researches have shown, on the other hand, differences, if not qualitative, at least quantitative, between the three kinds of oil examined, it follows that the principles that are in greater proportions in the black oil than in the other two kinds, ought to be considered as those which best fulfil the principal indications. Therefore it is not the neutral fatty matters, which are found in nearly equal quantities in the three species, nor the iodine, nor the phosphorus, nor the organic salts, which are found in greater quantity in the pale oils than in the black oil, which can be considered as more efficacious

than the other principles for the cure of rheumatism and scrofula. It appears, then, that it is to the bilious matter and butyric acid, rather than the other principles, that the greater part of the therapeutic effect can be principally attributed, for they are the substances which are found in the greatest quantity in the variety of oil proved to be the most active.

As to the matter unknown up to this time, and which M. Jongh first proved the existence of, in the product of the analysis of the different species of Gadus, and to which he applied the name of Gadine, it does not appear, on account of its insolubility, at least in the condition in which it was examined, to have a right to be considered as an active principle of the fish-liver oil.*

—Dr. Bennett considers that the therapeutic action of cod-liver oil is due to its fatty composition, and its being perhaps more easily assimilated than other fats. He believes that in rheumatic and tubercular affections, the albuminous compounds are in excess, and the oily compounds deficient; that, therefore, the most rational treatment is to supply the deficient oily matters directly. He explains the failure of other oils to effect benefit, which might be expected, if the fatty matter be the active principle, upon the supposition that other oils, such as olive oil, are purgative. The author proceeds to state that he thinks cod-liver oil is destined, in the hands of the rational practitioner, "to be an important means of curing a class of diseases hitherto considered of the most dangerous and fatal character."

Speaking of the effect of this oil in phthisis, Dr. Bennett's testimony is greatly in its favour; and, in fact, it may now be satisfactorily demonstrated that there is no medicine or system of treatment which holds out so much encouragement in the management of consumptive cases.†

72. *Iodized Oil.*—M. Marchal (de Calvi), suspecting that the virtues of cod-liver oil are attributable to the small portion of iodine contained in it, gives the iodide of potassium dissolved in almond oil, thereby, as he considers, increasing its effect.‡ [We have for some time been in the habit of giving the iodide of iron in combination with the cod-liver oil, and have had reason to believe that its efficacy has thereby been augmented.]

73. *Iberis Amara in Chronic Bronchitis, &c.*—The advantages of this herb in chronic bronchitis, asthma, dropsy, and cardiac hypertrophy, are mentioned by Dr. Sylvester. Its action appears to be somewhat similar to, but less active than, digitalis, controlling the heart's action, without depressing its powers. The part employed is the seed. The dose, 3 gr. with cream of tartar.§

74. *Phellandrium Aquaticum in Disease of the Respiratory Organs.*—M. Michea states that he has frequently taken occasion to exhibit this substance in cases of bronchitis, chronic catarrh, pulmonary phthisis, asthma, and other affections of the chest, and has mostly derived favorable results from its application. The action which the seeds of Phellandrium aquaticum exercise on the respiratory organs seems to be both stimulating and sedative; they abate the violence of the cough, and diminish or relieve altogether the oppression of the chest by facilitating expectoration.

As regards the best form under which the seeds of Phellandrium aquaticum may be exhibited, experience has taught the author that this remedy may be advantageously given in powder, at the dose of about eight grains, twice a

* Gazette Médicale, and Dublin Med. Press.
† 'On Cod Liver Oil,' Edinburgh, 1848; and Monthly Journal, May 1848.
‡ Gazette des Hôpitaux, No. 13, 1848.
§ Prov. Med. and Surg. Journal, July 28, 1847.

day (mixed with sugar), or, better still, in form of syrup. The latter form is more convenient and agreeable than any other, and the curative effect seemed always more prompt and certain. The patient should be recommended to take from two to four tablespoonfuls of the syrup per day, and to continue the use of the remedy without intermission for six weeks or two months; at which period the beneficial effects of the phellandrium will become appreciable.*

75. *Use of Ice in Exhausting Diseases.*—Some interesting cases are quoted in a recent number of the 'Revue Médico-Chirurgicale,' from a French journal, in which ice taken internally seemed to be of great service in reviving powers fast sinking. The writer employs it in various diseased conditions, providing these manifest the signs of intense debility. The reaction it induces may prove curative in some cases; while in others, in which this is impossible, a marked temporary amelioration of the patient's state occurs. In the cases in question there is great atony and extenuation, and an extreme aversion to any food whatever, with or without a development of heat. A number of morbid states and organic lesions, having no other points in common, may induce this condition. Iced water does not succeed anything like so well as the administration of the ice in little lumps, which, by requiring time for their solution, ensure its gradual introduction. These impart great tone to the system, and revive the inclination for food in a remarkable manner.†

* Répertoire de Pharmacie. † Rev. Méd.-Chir., vol. ii, p. 168.

II.

REPORT ON THE PROGRESS OF SURGERY.

BY HENRY ANCELL, ESQ. M.R.C.S.

Our readers will observe, in the present Volume, several extracts of which Mr. Vincent is the author (Arts. 46, 55, 63, 64, 69, 73, 76). This gentleman having been for a long series of years one of the principal surgeons to St. Bartholomew's Hospital, and having retired from that wide field of surgical experience, has favoured the profession with his '*Observations on some of the parts of Surgical Practice*,' and, more especially, with the results of his reflections 'On the Claims that Surgery may be supposed to have for being classed as a Science.' Mr. Vincent endeavours, in the first place, to fix more clearly, the precise distinctions that exist between science and art; he believes that the pretensions of surgery to the former are questionable, and his object is to show that surgeons have a duty incumbent on them, to improve the scientific character of their profession, and to afford increased benefit to the public by availing themselves, in their branch, of the powerful aids which real science must necessarily impart.

After describing the character of true science, that its seat is entirely in the mind, and that it depends upon the operations of the intellect, and after drawing as widely as possible the line of demarcation between science and that knowledge which is to be obtained by the mere perception, and showing that thought is not held in the distinction it is entitled to, few being either masters or judges of it, popularity being more easily acquired by those who have an insight into a great deal superficially than by the intellectual accomplishment of intense thinking,—and after broadly stating, that "opinion is so much the guide of medical conduct, that it is sometimes actually regarded and valued as much as a sound judgment,"—Mr. Vincent affirms, that the practice of surgery is at present little more than a collection of opinions, unstable and fleeting, and generally furnished by those whose position in the surgical society of the day gives them tone, and possessed of but small value in a scientific point of view, as proved by their unstableness; that surgery is, in fact, taught and pursued by prescription.

On the subject of *Operative Surgery*, remarks are made by Mr. Vincent which, by the more judicious of the profession, may be regarded somewhat as the expressions of a truism, but are yet worthy of record as the results of a long course of experience. We have lived long enough ourselves to have witnessed instances of disease in which the surgeon of the present day operated in the earlier part of his career, and now, after the lapse of years, having earned his reputation by operating, refuses to use the knife. We believe that in similar instances the younger surgeon, instead of profiting by the experience of his predecessors, is too frequently allured into the same career, and,

by lapse of time, will read his juniors the dearly-bought lesson of his own proper experience.

The great importance attached to operative surgery is probably the origin of this evil. In Mr. Vincent's mind, operations do not confer any compliment to the scientific character of surgery;—surgeons—he proceeds to state more generally—"whose qualities of mind barely rise to that level in which intellect can direct them to real scientific studies, fix upon the display of operative surgery as a department in which they think to shine;" but a vast number of operations are continually performed, which would be inadmissible if science had enlightened surgeons and enabled them to form correct judgments. "Surgery, as a science, would decide many questions in the way of avoiding operations," and "the surgeon too eager for performing operations, is not likely to impart scientific principles to his art. The improvement of surgery upon scientific principles," Mr. Vincent remarks, "must commence and proceed by investigating the more common instances of disease, by which there is afforded a larger field for making observations, a wider latitude for determining the relations, and a greater facility for obtaining the points of bearing the facts have with each other, than the consideration of rare specimens of disease can afford. In this way only is the greatest knowledge to be acquired." Attaching so much importance to rare cases does little more than give currency to ill-formed opinions. The inquiries now on foot to demonstrate the ultimate moleculæ of matter, is regarded by the author as another search after the philosopher's stone, or the monads of Liebnitz; and the impression existing in the minds of men that this is the best road that philosophy can take, is another impediment to the progress of scientific surgery.

Without giving their entire assent to all Mr. Vincent's views, our readers will no doubt admit that, in the main, they embrace much of the truth, and that our own pages are too frequently calculated to bear them out. At the same time, we are inclined to believe, that there is more of the truly scientific mind, even as strictly understood and defined by this gentleman, abroad amongst surgeons, than he appears disposed to allow. The slow progress of surgery as a science, is the slow progress of our knowledge of the laws of vitality. The difficulties of surgical science are the difficulties of the science of life. Again, the accumulation of facts, the "perceptive knowledge," as Mr. Vincent describes it, is not to be found fault with; it is the paucity of these facts on any given subject, and the assumption of erroneous observations and opinions as facts, which constitute the obstacles, in many instances, to our arriving at scientific principles. It is a long-cherished opinion of our own, that a Novum Organum is the great desideratum, not only in surgery but in the whole range of medical knowledge. All again must agree that there is too little intellectual culture in the youth of our profession; as Mr. Vincent beautifully expresses it, "the ant and not the bee is made the symbol of their endeavours;" but this remark is not exclusively applicable to surgical science; the foundation of the evil lies in the defects and erroneous principles of early and more general education. A discussion of these highly important subjects cannot be introduced into these pages; but we doubt not that

Mr. Vincent, and our readers generally, will participate with us in the hope and belief,—although it is not every age, or every department of knowledge, which can boast a Newton,—that the anticipation, at no distant period, of a more philosophical system, a "NOVA PRINCIPIA" MEDICINÆ, giving unity and stability to the sciences embracing medicine and surgery, is not altogether utopian.

The *prevention of pain during surgical operations* appears now to be admitted as an established principle in surgery; instances of all the varieties of amputation, of lithotomy, hernia, the resection of bones, the removal of tumours, the reduction of dislocations, and, indeed, of all the greater operations in surgery, successfully performed during the insensibility of the patient, are recorded in the medical journals; and the superiority of chloroform over ether, as an anæsthetic agent, has been all but universally admitted. It is totally unnecessary to encumber our pages with a description of cases which present no peculiarity, except the circumstance of operations having been performed without pain, or without the consciousness of the patient, since nearly every surgeon in the kingdom must either have availed himself of the agent in his own practice or witnessed it in that of others; but it is a notorious fact, that more than one individual has met with his death by the use of chloroform, and that unpleasant and even dangerous effects, as delirium, convulsions, &c., have manifested themselves in many cases. Although experience has proved that chloroform is possessed of all the advantages enumerated in the Report of the Editor in the last Volume of the 'Abstract,' p. 411, yet it appears to be a more powerful and, as such, a more dangerous agent than ether, and, accordingly, every practitioner is called upon to make himself well acquainted with its physiological and pathological effects, and especially with the modifications of those effects which result from differences in the age, sex, and temperament of individuals, from varieties of constitution and diatheses, the existence of cachexies, or predispositions to disease, or the actual progress of local or general disease, and also with the immediate and remote effect, which, under the use of these powerful agents, may result from the absence, diminution, or altered state of *cœnæsthesis*, in the various accidents and circumstances in which they are now employed.

In our last Volume (p. 236) our readers were made acquainted with Dr. Snow's observations respecting the use of *ether*, and the symptoms of the different *degrees* of etherization. In a communication made since the introduction of *chloroform* by Dr. Simpson, Dr. Snow states that the description of the different degrees of narcotism, from the action of the former, is equally applicable to the effects of the latter, and of other agents of a similar kind.* As in the use of ether, it is generally necessary to carry the effect of chloroform to the third degree, and sometimes to the fourth degree, to be certain of avoiding pain. Dr. Snow considers that ether has in general a greater anæsthetic effect than chloroform, in proportion to the narcotism, and that where it has appeared to be otherwise, the action of the latter has been carried further. Chloroform has the advantage over ether of being less pungent, and more readily inhaled; it occupies less space, and therefore excludes less of the air that the patient should breathe; it does not excite a profuse flow of saliva, as ether sometimes does; but Dr. Snow does not consider its greater rapidity of action altogether as an advantage. He remarks that ether required four or five minutes to produce its full chirurgical effect; and although it might be desirable to shorten the time to a certain extent, it is not desirable that the time should be less than two minutes—not only that there

* Medical Gazette, Jan. 1848.

may be ample opportunity given for the surgeon to observe its effects, but because *chloroform has a cumulative property.*

This cumulative property is of the utmost importance. Dr. Snow has often observed the insensibility *increase for twenty seconds after the inhalation has been left off.* He has marked this by the watch; and his experience induces him to say that he prefers taking six times this period, or two minutes, for producing complete insensibility; whereas, when administered according to Dr. Simpson's plan, its full effect is frequently obtained in a much shorter period, and a "snoring sleep" is very rapidly produced. Dr. Snow regards this snoring sleep as the fourth degree of narcotism, and as but one remove from a *total cessation* of respiration, and he considers it unadvisable to induce this state *with such rapidity*, lest the narcotism should proceed a degree further, *after the inhalation of the vapour*, by virtue of the cumulative effect of the agent. M. Sedillot also stated, in the Academy of Sciences, that with chloroform the pallor, smallness of pulse, weakness of respiration, and coldness of the skin, sometimes increase after the inhaler has been removed, in an alarming manner.* The same cumulative property has been noticed by Mr. Sibson and others: thus corroborating the observation originally made by Dr. Snow.

In a pamphlet published by Mr. Curling,† we find this gentleman still disposed to think that in some cases a preference ought to be given to ether as an anæsthetic agent. "Chloroform," Mr. Curling states, "has a greater tendency to produce involuntary muscular contraction, and exerts also a more direct and a more powerful influence on the heart than ether. In those cases, therefore, in which we desire chiefly to obtain muscular relaxation, and in persons whose powers are much depressed, it may be advisable to employ ether. Ether is, perhaps, better suited also for those cases in which we desire to prolong the insensibility to pain, as its influence is less transient than chloroform, and more readily rendered persistent." A mixture of the two has been employed in Vienna; and this plan has been tried with advantage by Mr. Curling.

On the general utility of anæsthetic substances, it is remarked, in this work, that, besides being useful in diminishing the shock of operations and subsequent reaction, they operate beneficially by rendering the after exhibition of opiates unnecessary; and, further, according to Mr. Curling's experience, "the constitutional symptoms have been milder, and the cases have proceeded more satisfactorily, than after operations in which no means have been taken to prevent pain." He deems a further advantage to accrue from the less need of rapidity in operating; from an opportunity being given of acting with greater deliberation and exposure; and from the composure of the patient. In children, these several advantages of anæsthetic agents become still more prominent. That insensibility can be brought about, renders amputation of the breast for malignant disease much less objectionable than otherwise.

It is admitted by Mr. Curling, and by most of the writers upon the subject, that in certain states the full effects of these agents cannot be produced without danger; as examples, organic diseases of the heart, especially a dilated or weak heart, and a tendency to congestion in the brain in plethoric individuals, are especially mentioned. On the objection, that injurious effects have been produced on the constitution, increasing the fatality of operations generally,

* Medical Gazette, March, Feb. 18, 1847.

† 'On the Advantages of Ether and Chloroform in Operative Surgery,' by J. B. Curling, Esq., 1848.

Mr. Curling appeals to facts, which tell strongly in favour of anæsthetic agents Of seventy-three cases of amputation of the thigh and leg, where the patients were rendered insensible, fourteen proved fatal, giving a mortality of about nineteen per cent. Of one hundred and thirty-four cases, where no anæsthetic measures were resorted to, fifty-five were fatal, giving a mortality of forty-one per cent., more than double that after their exhibition. Another equally favorable statistical statement is made; and, in concluding, the writer makes one further observation worthy of note, remarking, "There is a condition in which the surgeon would naturally be extremely cautious in giving anæsthetic remedies, until experience had fully proved that they might be safely employed." This condition is, shock from an injury.

Where this state is excessive, and sensibility is consequently annihilated, a prudent surgeon would not venture to give chloroform, nor would it be needed. But when patients "have recovered from the first effects of the shock, and though the heart acts feebly, there is sufficient power to admit, if necessary, of operative proceedings, in such cases, anæsthetic remedies usually exert a beneficial effect," acting as stimulants; saving the hurtful effects of a second shock; inducing a healthy reaction; and altogether placing the patient in a more favorable state for recovery than where such means have not been resorted to. Lastly, where operations are needed, in persons reduced by previous illness or exhausting discharges, anæsthetic agents have helped to support the patient during the operation, and have had an exhilarating effect upon the powers of life afterwards. But in such cases, it must be borne in mind, that their effects are readily and quickly developed; and caution must be observed, so as not to produce too powerful an effect.

These views are amply confirmed by Dr. Simpson,* in a "Statistical inquiry into the results of anæsthesia in amputation." According to Dr. Simpson's returns, which have been collected with great industry and care, and collated with the author's well-known talent, the following table exhibits—

THE MORTALITY OF AMPUTATION OF THE THIGH, LEG, AND ARM.

Name of Reporter.	No. of Cases.	No. of Deaths.	Per Centage of Deaths.
Parisian Hospitals—Malgaigne	484	273	57 in 100
Glasgow Hospital—Lawrie	242	97	40 in 100
General Collection—Phillips	1,369	487	35 in 100
British Hospitals—Simpson	618	183	29 in 100
Upon Patients in an Etherized State	302	71	23 in 100

Thus, in every 100 persons submitted to amputations of the thigh, leg, or arm, the lives of 6 were, by the employment of etherization, saved, above the average number of the same operations in British hospitals;—17 lives in each 100 were saved, if we take the Glasgow returns as a standard of comparison; the average mortality was, under ether, less by 34 in every 100 cases than that which was found by Malgaigne to accompany the same operation in the Parisian hospitals.

Taking a single operation as a standard and medium of comparison, so as to render the result more clear, Dr. Simpson's investigation furnishes the following table;

* Monthly Journal of the Medical Sciences, April 1848.

MORTALITY OF AMPUTATION OF THE THIGH.

Name of Reporter.	No. of Cases.	No. of Deaths.	Per Centage of Deaths.
Parisian Hospitals—Malgaigne	201	126	62 in 100
Edinburgh Hospital—Peacock	43	21	49 in 100
General Collection—Phillips	987	435	44 in 100
Glasgow Hospital—Lawrie	127	46	36 in 100
British Hospitals—Simpson	284	107	38 in 100
Upon Patients in an Etherized State	145	37	25 in 100

The figures, Dr. Simpson remarks, speak in a language much more emphatic than any mere words, in favour of anæsthesia, not only as a means of preserving surgical patients from pain, but as a means also of preserving them from death. Between even the lowest mortality in the table without ether, 36 in 100, and the rate of mortality with it, 25 in 100, there is the difference of 11 per cent. That is to say, according to this standard, out of every 100 patients submitted to amputation of the thigh without anæsthesia, 11 more would die from the operation than if the same 100 patients were submitted to the same operation in a state of anæsthesia. And if the condition of anæsthesia effects thus a saving of 11 lives in every 100 amputations of the thigh,—then out of every 1000 such operations the lives of 110 patients would be preserved by the use of antipathic means.

When etherization first began to be employed in surgical operations, it was eagerly argued that its adoption produced a greater tendency to primary and secondary hemorrhage, to imperfect union of the wounds, to pneumonia, &c. From the analysis of the three hundred cases of amputation reported, these various allegations were ascertained by Dr. Simpson to be foundationless and imaginary.

A very interesting article on the effects of chloroform, and other narcotic agents, has also been published by Mr. Sibson, of Nottingham.* Mr. Sibson remarks that the key to the knowledge when the stage of safety, or sopor, is about to emerge into that of danger, or coma, is the action of the pupil, "chloroformization ought not to be continued one instant after the pupils, previously contracted, have begun to dilate." This writer also states that "if complete muscular relaxation be sought for, as in hernia, to facilitate taxis, in dislocation, to make reduction easy, and in tetanus, then it will be needful, in general, to urge the patient from sopor into coma; but as soon as the muscular relaxation is secured, the inhalation should cease.

The principle that it is important to dilute the chloroform vapour largely with air during the first few inhalations has been generally admitted. Mr. Sibson remarks, "so as to avoid the sudden shock on the nerves of the lungs, and accustom them to its presence."

The following practical caution is given by Mr. Curling: "To be careful to secure the principal vessels divided, since, in some cases, the heart's action is rendered so feeble, that vessels of considerable size scarcely bleed, and so may escape observation, but will burst forth when the influence of the chloroform has passed away."

If, as an effect of chloroform, natural respiration should cease, the appropriate remedy is *artificial respiration*, and the surgeon should at all times be prepared to resort to this without delay; M. Pluvier has performed experi-

* Medical Gazette, Feb. 18, 1848, p. 267.

ments on animals, proving that, in apparent death from ether or chloroform, life may be restored by artificial respiration. Should the action of the heart cease with the respiration, Mr. Sibson recommends the abstraction of two or three ounces of blood from the jugular vein, to relieve the distension of the heart, and permit the renewal of its action.*

The case of Mary Greener, which proved fatal, and became a subject of medico-legal investigation, was simply this:—She was suffering from onychia, Mr. Meggison seated her in a chair, and put about a teaspoonful of chloroform into a tablecloth, and held it to her nose; after respiring twice she pulled his hand down; he told her to draw her breath naturally, which she did, and in about half a minute the muscles of the arm became rigid, and her breathing a little quickened, but not stertorous; the pulse was natural until the muscles became rigid, it then appeared somewhat weaker, but not altered in frequency; the toe-nail was then removed; when the semicircular incision was made she gave a jerk; her eyes were then closed, Mr. Meggison opened them, and found them congested, they remained open; her mouth was open, and her lips and face blanched; water dashed in her face produced no effect; she swallowed a little brandy with difficulty; she was laid upon the floor, and an attempt made to bleed her, but she was dead; the time not being more than three minutes from the first inhalation of the chloroform till her death.†

In a subsequent communication, Mr. Meggison states that, after the cloth was removed from her face, the respiration was at first somewhat quicker and stronger, then became very rapid, and ended in a prolonged forced expiration or splutter, the remaining expirations and inspirations being exceedingly feeble and few. Dr. Snow remarks, that it is evident from this that the fatal event arose from the *cumulative* effect, after the inhalation was discontinued.‡

Besides ether and chloroform, other anæsthetic agents have been proposed: Dr. Simpson made trial of several chemical substances, and in particular of *aldehyde*. M. Poggiale, Professor of Chemistry at the Val de Grâce, seems to have been the first to announce that the inhalation of the vapour of aldehyde is speedily followed by the most complete insensibility.§ Its effects are even more rapid and more powerful than those of chloroform, but it is a more irritating substance, and has a more powerful odour, qualities which are likely to prevent its becoming a substitute for chloroform. M. Poggiale's experiments were made only on animals. Dr. Simpson has tried the respiration of this substance, and also of chloride of hydro-carbon, nitrate of ethyle, benzoin, and bisulphuret of carbon, but not one of these proved comparable with chloroform or sulphuric ether; they were less manageable, and their after consequences too severe and too frequent to admit of their introduction into practice.‖

2. On the subject of *Operative Surgery* generally—passing from the great discovery of the day—a memoir has been read by Dr. Vidal (de Casis) to the Academy of Medicine (Jan. 25), on *the performance of operations at intervals (en plusieurs temps).*¶ Dr. Vidal states that, in his opinion, operative surgery yields too frequently to the ancient rule of "unity of time," and does not sufficiently obey the laws of Nature. He combats the precept of unity of time, and defends the advantages of a contrary principle, that of operations performed at intervals.

He gives this denomination to operations which the surgeon accomplishes in several successive actions, separated by more or less considerable periods

* Liber citatus, p. 271. † Edin. Med. and Surg. Journal, April 1848, p. 496.
‡ London Med. Gaz., March 17, 1848. § Dublin Medical Press, April 12, 1848.
‖ Monthly Journal, April 1848, p. 740. (?) See Report on Materia Medica, p. 239.
¶ Translated for the Medical Times by D. M'Carthy, D.M.P.

of time. No doubt, nothing can be more brilliant than the removal in a few minutes of a disease which for years had threatened life; but it also sometimes happens that the sudden and, as it were, instantaneous removal of an ancient malady, to which the system had become almost accustomed, causes a deep disturbance and depression of the constitution, and prevents the possibility of a salutary reaction after the accomplishment of the operation. Besides, in a properly regulated method, there are circumstances which can be brought about only by the intervention of Nature. For instance, when a foreign body, engaged deeply in our structures, is eliminated without the interference of art, Nature causes successive divisions and cicatrizations, by which the foreign body is gradually brought to the skin. Thus, in abscess of the liver, whilst ulceration destroys the walls of the purulent sac, adhesions form between the visceral and parietal layers of the peritoneum, which prevent effusion of pus into its cavity; this synthesis, which cannot be executed by the surgeon, must perforce be confided to Nature, in order to avert a fatal accident. . . . . . . The intervention of Nature is not necessary only in the operations rendered indispensable by disorders which threaten life. Autoplastic surgery must also have recourse to its resources: the region which requires reparation must be prepared, the substance or portion of skin to be displaced must be brought gradually by slow journeys, as it were, from its present seat to its future destination; in a word, some autoplastic operations of a dangerous nature may cease to be so if these principles be attended to.

Dr. Vidal illustrates his principle by the following instances:—

a. Extraction of articular concretions.—M. Goyraud admitted the principle when, for the purpose of extracting a loose cartilage from a joint, he did not complete his operation until he could rationally suppose the articular wound to have healed. The following was the operative process adopted:—The first part of the operation was accomplished according to the rules of subcutaneous operations, the skin being divided at some distance from the spot of the articular capsule which was to be opened, leaving an oblique passage between the wound of the skin and the capsular action. The loose cartilage was then forced out of the articular cavity through the opening of the capsule into the cellular tissue, and fixed there until the wounds were completely healed: thus the cartilage had become an extra-articular foreign body, the definitive removal of which was obtained by a simple operation unattended with peril. A small incision permitted its escape, and in five days the patient was completely restored. It was physically impossible for air to penetrate into the joint: during the first period, the foreign body opposed its passage; and in the second operation, the capsule was completely healed.

b. Bronchotomy.—In order to prevent hemorrhage into the trachea, M. Récamier recommends to divide all the tissues from the skin to the trachea, and to open that tube only twenty-four hours after. When it is recollected that tracheotomy is almost invariably an operation performed in urgent cases, time being of the utmost value, the principle cannot be applied in this instance.

c. Incision of abscesses and cysts.—Callisen had already conceived the idea of opening deep-seated abscesses in several successive operations, and M. Bégin established this notion as a precept. By the first operation the surgeon should approach as near as possible to the purulent collection, and sometimes the remainder of the operation may be abandoned to Nature, who performs her part by an ulcerous process, hastened by the phlogosis which the first operation has induced. This method has been chiefly applied to the surgical treatment of hepatic abscess, and it is well known that M. Récamier opens certain cysts of the liver only after the application of caustic. The object of

the first operation is to cause adhesions between the visceral and parietal layers of the peritoneum, in order that the abdominal wall may, as it were, become the wall of the abscess, and that effusion of pus into the serous cavity may be almost impossible. The second part of the operation is sometimes abandoned to Nature, who attains her end by ulcerations. Graves is of opinion that the surgical action should be always limited to the first operation. M. Bégin is of a contrary opinion, for the second operation the knife should be always preferred; for the first, opinions are divided—M. Récamier uses caustic, M. Bégin recommends the knife. The property of producing adhesions is attributed by the former to the caustic, and is the reason of his preference; but the inflammation produced by incision may certainly have the same result. Besides, the cause of the partiality for caustics is the consequence of two exaggerated fears—that of the patient, who, above all, dreads the incision; that of the surgeon, who exaggerates the difficulties of the operation. The caustic cannot be used with the same precision as the knife; and the time necessary for the elimination of the slough is gained if incision be preferred. Some operations seem, also, to exclude the application of caustic. Thus, in order to carry into execution the idea of M. Bégin and others, who, to create an artificial anus, according to Littré's method, recommend first that adhesions be established between the intestine and the abdominal wall, it is evident that it will be far preferable to divide in the first instance the abdominal walls, to acting blindly with a caustic, the action of which it is quite impossible to direct or to limit.

d. Lithotomy.—The idea of practising lithotomy in several successive operations is ancient. Franco looked upon this method as the best for the extraction of calculi. It was also mentioned by Covillard, Deschamps, Camperzoin, and Saucercotte. But the elder surgeons were in the habit of opening the bladder on the very first day, and removing the concretions at a later period; whereas, Dr. Vidal recommends that the first operation do not extend to the bladder, which will be incised only when secondary inflammation has caused a sort of organic cement to be secreted around those parts which will, after operation, be in contact with urine. Infiltration, one of the great causes of the mortality in lithotomy, is thus prevented. M. Nélaton, M. Monod, and Professor Gerdy, have already performed lithotomy according to these principles, but the cases, in which many serious complications existed, sufficiently serious to prevent the idea of lithotrity or even of the usual operations for lithotomy being entertained, were not fortunate in their issue.

e. Autoplastic operations.—In these, Groefe and Professor Roux have found great advantage in employing the method *en plusieurs temps.* In ruptures of the perineum it will be found useful; and finally, by its adoption, operative surgery will attain the following results:—1. The great disturbances of the system will be avoided. 2. The modes of execution varied, and the resources of nature called into action. 3. Certain plastic operations, more perfect and less dangerous, will become possible; and 4, this question will be solved—Is it better to undergo several simple and short operations, unattended with peril, than submit to uncomplicated, long, and dangerous operations?

The works which have come to hand since our last Volume was published contain many other articles having important bearings upon the general principles of surgical science and practice. Among the subjects of discussion, we find the following:

3. *On the Employment of Heat and Cold in Therapeutics, and the Application of Fluid Pressure.*—Indefatigable efforts are made by Dr. James Arnott to call the attention of the profession to this subject. He dwells emphati-

cally upon what he believes to be the fact, that poultices and fomentations, cold lotions, bladders of ice, and similar applications, frequently produce effects the very opposite of those intended by the surgeon or physician, and as frequently do mischief rather than good. It is essential, Dr. Arnott remarks, for the effectual application of heat or cold in inflammatory or irritative diseases, that the appropriate temperature should be *uniformly preserved*, and his experience leads him to affirm that no judgment can be arrived at of the beneficial effects of definite degrees of heat or cold in various diseases, from the ordinary clumsy and ineffectual methods of their application. Dr. Arnott has invented a waterproof cushion or bladder, through which, by a most simple contrivance, *a current of water may be made to flow of any temperature that may be required.* The contrivance also admits of the addition of pressure—fluid pressure—to the regulated temperature. Its object is, thus to apply cold continuously and uniformly in affections of the head or eyes, or after surgical operations, for instance; to employ, in the same way, heat, in inflammatory and spasmodic affections of the chest or abdomen; or to apply the equal and uniform pressure of water of any given temperature in eczema, for instance, and other cutaneous affections; *or in the treatment of burns*, wounds, certain ulcers, &c. Heat, Dr. Arnott observes further, communicated by poultices and fomentations, is too transitory and interrupted to be of much avail; and again, a series of reactions is frequently produced by the usual intermitting applications of cold, leading to excitement as the result, instead of depression.

Pressure on an irregular surface, by a bandage, will at best be confined to the projecting parts; the bandage, soon becoming distended by the motions of the patient, will cease acting on certain parts and be concentrated on others, causing either irritation or congestion. Dr. Arnott confidently hopes that his improved method of application will render fluid-pressure as a curative agent less dangerous, and more than doubly effectual, and that its use may be extended with advantage to diseases in which it has not hitherto been employed, in illustration of which it is stated, that by supporting the inflamed and distended vessels, and at the same time regulating the temperature, harassing diseases of the skin, which had resisted all the usual remedies, have met with a speedy cure. Dr. Arnott's views have been most favorably commented upon by several of the medical journals.*

4. *On the Employment of the Power of Elasticity in Surgery.*—Mr. Clark, surgeon to the Bristol Infirmary, has communicated a memoir on this subject. Without denying that the rack and screw are powerful and necessary instruments, or aiming to discard their use, he states his belief, that there are numerous instances in which they are resorted to where the elastic principle would be more appropriate. Caoutchouc has been employed in surgery as a *compressor*. Mr. Clark suggests its use as a *tractor*, and estimates its power at a much higher rate than has hitherto been done. Its beneficial effects have been observed in—1, lateral curvature of the spine; 2, bending rigid joints, and straightening them when contracted; 3, the removal of long portions of dead bone from the soft parts, and withdrawing a sequestrum from its osseous shell; 4, the removal of ligatures, when they have been detained beyond the accustomed period; 5, opposing the tendency of cicatrices to contract after burns.†

In the *arrest of bleeding* from leech-bites, and even from arteries of tolerable size, such as the superficialis volæ, and the superficial palmar arch,

* London Med. Gaz. Jan. 8, 1846; Lancet, Dec. 4, 1847; Prov. Journal, Mar. 8, 1848.
† Prov. Med. and Surg. Journal, Oct. 6, 1847.

Mr. Vincent also advocates a resort to the principle of elasticity—the elasticity of the integuments. In the first place, he winds a very small piece of lint into a hard knot, so as to be less than a pea, and wiping the orifice quite clean of blood, and placing this little pad upon the bleeding point; then taking advantage of the elasticity of the integument, he draws a strip of adhesive plaster tightly over it. This has been quite enough to stop it perfectly, and on the third day there is an end of the wound. The point to be observed particularly in this application is, that the strip of plaster may be long enough to ensure a steady pressure of the pad by drawing up the integuments from a distance, by which the elastic quality of this structure gives a permanent pressure; but even this pressure should be confined as much as possible to the bleeding orifice.

The practice he adopts is to use a hard boss of lint, larger than that for leech-bites, but yet not more so than to cover fully the bleeding artery, to clear all coagulum away, and then press this boss upon the artery. As we are to get the elastic power of the integuments to keep up unremitted pressure, it will be necessary that this boss should have other pads placed over it, when it lies below the level of the surrounding parts, in order that the pressure may take effect. But in this instance, there is no other application to be made, except upon this very spot over the artery; the rest of the wound ought not to be closed in, and no other covering except a piece of lint laid loosely on it; the lips of the wound are not to be brought together, nor is the pressure of bandages to be used. When suppuration has fairly taken place, no further bleeding will ensue, and the pressure may be taken off. Security has so certainly followed this plan of treatment, that he has the fullest confidence in it. Allowing the object to be fully obtained, it is a striking advantage over other methods that are usually had recourse to. All surgeons must have had the opportunity of seeing the difficulty and tediousness of securing the cut ends of the superficial palmar arch, and we know of the extraordinary propositions that have been followed out of tying both the radial and ulnar artery, for the purpose of stopping bleeding from the arch.

5. M. Trinquier, professor of medicine at Montpellier, in a letter, "*On Muscular Exercise considered as a Therapeutic Agent*," reminds his readers of the various causes of muscular contractions, and of the propriety of investigating these, with the view of determining whether any contraindication exists, or whether other curative measures may not be resorted to successfully, before operations are determined upon. Several examples of successful treatment are quoted from a pamphlet published by an English surgeon, Mr. W. T. Ward, in 1822. An individual having a contracted knee, from rheumatism of several years' standing, was made to walk on an inclined plane, and completely recovered the use of his limb in about seven months. In another more aggravated case, commencing with percussion, and proceeding gradually to the use of the inclined plane, in a few months the limb became straight, and the patient recovered its use. A false anchylosis in a gouty toe was cured in three months by frequently supporting the weight of the body on the toe. In another most aggravated case of contraction of almost all the joints in the body, in the person of an Indian officer, the same principle, with oily frictions, and the use of weights and pulleys, employed diligently for nine months, resulted in a very great improvement of the patient's condition. An antero-posterior curvature of the spine was completely restored, the patient at the same time recovering his health. M. Trinquier gives a case, in his own practice, of wry-neck cured in a similar manner, without resorting to a section of the

* Lib. cit. p. 215.

sterno-mastoid muscle. The conclusion to be arrived at is, that muscles which have been contracted for many years may be restored to their normal length by special exercises continued for a long period; and that the exercise of the muscles, at the same time that it produces extension of the flexors, gives tone to their antagonists, so that by the time the position of the limb is restored, its volume and force is found to be sufficient for the accomplishment of its functions.* Mr. Vincent has also some original remarks on the surgical relations of associated muscular motion.†

6. *Galvanism as a Therapeutic Agent in Surgical Diseases* is still under the investigation of numerous scientific individuals in various countries. It has been well remarked, that it fell into disuse, in consequence of the deceptions and exaggerated statements of charlatans and enthusiasts shortly after its discovery, and that some other causes have been in operation to prevent the profession giving it a patient and sufficient trial—as the tediousness and presumed difficulty of its application; but the belief is most reasonable that an agent, which may be made to traverse directly, and almost at the will of the operator, the different parts of the nervous system, the action of which is instantaneous, and may be graduated and withdrawn according to the requirements of the practitioner, must exercise a powerful influence over the functions of the body, and admit of the most useful application in affections of the nervous system, of the blood, and of the various structures and organs of the body.

Numerous cases have been recorded in which galvano-puncture and the application of electricity in its various forms have been unsuccessfully applied, even in diseases in which its use is frequently indicated, which clearly shows that it is not a remedy to be employed with success indiscriminatively, or empirically, and the proper train of scientific investigation at the present moment appears to be, to ascertain and define the cases in which it is capable of efficient application as well as its proper mode of application. In our late Volumes‡ we have recorded much of the information which has been obtained on these points, and in the works which have subsequently come to hand, we observe its application extended to other cases; in the Extracts of the present Volume the reader will find a case of ununited fracture treated successfully by galvanism (page 119), and "a case of subclavian aneurism cured by galvano-puncture" (page 123). We have now before us instances of the successful employment of this agent in aneurisms, varices, diseases of the bones and bladder, in cases of paralysis—as for instance, "paralysis of the right side of the face—which had resisted all other remedies,"§ in rheumatism—as "in a case of severe and obstinate sciatica of several months' standing, cured in fourteen days;"‖ also, amongst others of a similar nature, "a cure of obstinate chronic rheumatism, by Mr. Christopher;"¶ and again, the utility of galvanism in a case of poisoning by opium, has been recently recorded,** &c., &c. As respects rheumatic, neuralgic, and paralytic cases, many instances have been detailed in which it has failed, so that, as remarked by one of our continental contemporaries, although at present it is impossible to discriminate those cases which will give way to its effects from those which will not, when such affections resist the ordinary treatment, the application of galvanism is indicated.

7. The semi-annual period of our present Report embraces a new proposal for the advancement of medical and surgical knowledge, viz. that the members of the Provincial and Surgical Association should furnish to the profes-

* Revue Médico-Chirurgicale, Fev. 1848; and Practical Observations on Distortion of the Spine, &c., by W. T. Ward; London, 1822. † Lib. cit., p. 1—13.
‡ Half-Yearly Abstract, Vols. III, IV, V, VI. § Revue Méd.-Chir. de Paris, Dec. 1847, p. 327. ‖ Idem, p. 328, from the Gaz. Méd. de Strasbourg.
¶ Lancet, Feb. 5, 1848, p. 152. **Prov. Medical and Surg. Journal, Nov. 3, 1847.

sion, through the medium of the 'Medical and Surgical Journal,' the results of their experience on specified subjects, individuals being appointed by the Association to collect all the communications of the members on each subject, and to make reports thereon. The object is to render this Association and its valuable journal available for the purpose of collecting information—to accumulate the observations and experience of members, and ultimately to reduce them to principles. The details of the plan are contained in a letter by Mr. Crompton, of Manchester, who is authorised by the Association to test its utility in an investigation of the "*Treatment of Burns and Scalds.*" Mr. Hunt, of Herne Bay, also has proposed a plan of his own for investigating the "*Medicinal Action and Effects of Arsenic,*" which the Association has authorised him to work out. It is scarcely necessary to remark, that these proposals, and the manner in which they have been met by the Association, are deserving of the highest commendation. The best method of carrying the object out may not at present be clearly ascertained, but the results must be highly interesting and conducive to the interests of medical and surgical science.

§ I.—*Injuries and Diseases of the Arteries and Veins.*

8. *Deligation of the Carotid Arteries and of the Arteria Innominata.*—In our last Volume we referred to a paper by Dr. Norris upon this subject (p. 246), which we then were prevented reporting upon for want of space; and it is to be regretted that, for the same reason, we can furnish but an imperfect abstract upon the present occasion.* Dr. Norris gives *six series of tables*, being the statistics of the mortality, accidents, &c., following these operations. And he states that close examination of the cases recorded shows that the operation of tying the carotid has been too generally looked upon as one of but comparatively little danger. Serious symptoms frequently follow the mere cutting off of the supply of blood to the brain, and fatal accidents are common results. Series I consists of 38 cases, in which the carotid has been tied for aneurisms. Series II, 30 cases for wounds, &c. Series III, 18 cases in extirpating tumours. Series IV, 6 cases in cerebral affections. Series V, 42 cases in erectile tumours, tumours of the diploe, jaw, maxillary sinus, and neck. Series VI, 15 cases of Brasdor's operation—in all, 149 cases.

a. Aneurisms.—22 recovered, and 16 died; 27 were males, and 11 females. Of 33 cases noted, 22 were on the right, and 11 on the left side. Of 34 cases noted, 4 were under 20 years old; 7, between 20 and 30; 8, between 30 and 40; 5, between 40 and 50; 3, between 50 and 60; 3, between 60 and 70. 33 were done for the cure of aneurisms; 1 for varicose aneurism; and 4 for tumours, afterwards discovered not to be aneurisms. In 13 cases the ligature came away before the 26th day; in 7, between the 20th and 30th; and in 1, on the 33d. In 9 cases, pulsation was noticed after the operation. Some of these cases are highly interesting. All the cases in which hemorrhage occurred after the operation, except 2, proved fatal. In 6 cases, the tumours suppurated, and either burst spontaneously, or were laid open; 4 died, and 2 were cured. Of the 16 fatal cases, 2 died from inflammation of the sac; 1, from inflammation of the brain; 5, from hemorrhage coming on from the 4th to the 70th days; 1, from spasm of the glottis; 2, from apoplexy and congestion of brain; 1, from exhaustion; and 4 were not noted. In 7 of the 38 cases, mistakes in diagnosis occurred: 1 tumour was a fungous

* American Journal of the Medical Sciences, July 1847.

hæmatodes; 1, a carcinoma; 1, tumour surrounding, but in no way connected with, the artery; 1, a glandular swelling; in 1, an aneurism was mistaken for an abscess; in another, also, the tumour was believed to have been originally a scrofulous abscess; and in 1, the aneurism followed a wound, and was seated in the vertebral artery. In 12 cases, serious symptoms were manifested in the brain after the operation.

The latter result of tying the carotids has been several times referred to in former Volumes of the 'Abstract,' and is deserving of particular attention.* In the first case in which the operation was ever done for the cure of aneurism, paralysis of the arm and leg came on on the eighth day. Four days afterwards, the palsy of the arm had almost disappeared, and no further report concerning it is made. In another case, No. 4 of the series, there was great drowsiness on the third day, and on the following day the right side was much more feeble than the left. After some days, these symptoms gradually disappeared. In No. 18 of the series, the patient became slightly convulsed on the right side one hour and a half after the operation, and sunk into a state of stupor. Two days afterwards, his left side became paralysed. In No. 16, it is stated that "a few hours after the operation, symptoms of inflammation of the brain arose," but were subdued by the antiphlogistic treatment. In No. 37, apoplexy occurred on the morning of the day following the operation; from which the patient partially recovered, and lingered on for nine days after it. In No. 35, slight cerebral disturbance arose the day after the ligature; and on the fourth day there was paralysis of one side. In No. 17, dimness of vision, and a sense of coldness over the right side of the face, came on immediately after the operation, which gradually disappeared in a few hours, though for some days headache, difficulty of deglutition, and heaviness in the right side were complained of. In No. 20, the patient lost the use of the eye, and was affected with hardness of hearing. In No. 25, there were slight convulsions on the second day after the operation. In No. 9, giddiness, with numbness, and trembling of one arm, came on two hours after the operation; the numbness disappeared the day after. In No. 34, hemiplegia followed which it is stated, may have occurred at the moment of tying the ligature, but was not remarked until an hour or more after the operation, and the patient continued faint and hemiplegic till her death, on the fifth day. In No. 26, coma supervened on the night after the operation, and the patient soon after died. Of these twelve cases, seven died.

These cerebral symptoms were noticed at various intervals after the tying of the artery, and in all of them are attributable either to cutting off the direct supply of blood to the brain, or to disease consequent upon the altered condition of the circulation in that organ. It is impossible to determine what particular state of the vessels of the brain predisposes it to become diseased after obliteration of the carotid. The researches of Mr. Chevers leads him to think that in most instances the fatal mischief is consequent upon deficient arterial supply; but that in some cases it may arise from increased pressure of blood upon the arteries of the affected hemisphere, in consequence of the supply to the carotid being diverted through the vessels of the circle of Willis.

b. Wounds.—Of the 30 cases contained in this series, 15 were cured and 15 died. The ligature separated in 1 before the tenth day; in 9, between the tenth and twentieth days; in 3, between the twentieth and thirtieth days. Hemorrhage followed in 6 cases, of which 3 died; in 8 cases, derangement of the cerebral functions occurred, and 2 only of the 8 recovered. The cerebral

* American Journal of Medical Sciences, July 1847, p. 27.

effects included temporary and permanent disturbance of vision, loss of motion, followed by coma and death; headache and delirium, followed by stupor and death; complete insensibility, followed by recovery; hemiplegia, delirium, with convulsions on one side, and hemiplegia on the other side, &c. &c.

The following most instructive instance of a mistake, in regard to tying the artery, which occurred at the New York Hospital in 1840, is given:—The case was one of violent hemorrhage, arising from ulcerations towards the middle of the neck, in which it was determined to apply a ligature to the common carotid. An incision was made in the ordinary manner, on the inner side of the sterno-mastoid muscle; and in the usual situation of the sheath of the vessels a large mass of fibrine was found adhering to all the tissues in that region, and confounding them in such a manner that it was difficult to distinguish one from another. After careful dissection, what appeared to be the sheath of the vessel was exposed and divided. A cylindrical body, of the size and colour of the artery, was then brought into view, and a ligature passed under it. Several of the surgeons present, as well as the operator, felt the vessel under which the ligature was placed, and felt convinced that it was the carotid artery, although no distinct pulsation could be felt in it. This was attributed to the extreme prostration to which the patient was reduced. The ligature was then tied, without any effect in arresting the flow of blood. From this it seemed evident that the subclavian, or one of its branches, were wounded; but the patient was so prostrate, that it was not deemed safe to attempt any further operation. Firm pressure with the hand was therefore continued. Death occurred early on the following day. Upon post-mortem examination, the ligature was found to embrace only a band of organized lymph, situated immediately anterior to the sheath of the vessels, which were in a perfectly healthy condition. The hemorrhage was found to proceed from the inferior thyroid, which was destroyed by ulceration in one half of its circumference for the space of an inch.*

c. Extirpation of Tumours.—Of the 18 cases, 6 died, and 1 is stated to have been "recovering on the eighth day." In several the most severe cerebral symptoms supervened. The ligaturing of the carotid, previous to the extirpation of tumours, unless there is reason to suppose that the tumour involves the artery itself, would seem to be an unnecessary step, inasmuch as pressure alone, if confided to a careful assistant, will as effectually guard against the danger from hemorrhage. It must be borne in mind that this preliminary measure is in itself a *dangerous* operation; and, as has been justly remarked by Mr. Chevers, it would be far better for the surgeon to make up his mind to contend with an active hemorrhage than that he should submit his patient to the chance of fatal hemiplegia. The idea seems still to be entertained by some, that after such a step the subsequent dissection of the tumour is nearly bloodless. The opinion is an erroneous one; the anastomosis being so free in the enlarged state of vessels which usually exist in these cases, as at times to pour out blood profusely. The difficulties and immediate danger of exposing the carotid vessel too, in cases of large tumours, are not to be set down lightly.

Dr. Norris concludes, "as a preliminary step to these operations, the general experience of surgeons of the present day is decidedly against the proceeding."

d. Cerebral Affections.—The operation has been performed for the cure of epilepsy, paralysis, and neuralgia; but the results, as given in detail by

* New York Medical Gazette, Feb. 9.

Dr. Norris, are very unfavorable. In several of the cases, both carotids were tied at intervals, without any benefit accruing; epileptic fits sometimes occurred the day after the operation; only momentary benefit was derived from it in a case of neuralgia, and in those cases in which it appeared to be advantageous. As remarked by Dr. Norris, quite as much, if not more benefit is daily seen to follow any well-directed treatment, and this without resort to means which endanger life. Indeed, as much benefit is likely to result from hygienic treatment alone.

e. Erectile Tumours, &c.—Of the 42 cases, 31 were for the cure of erectile tumours, or arterial varices, in the head or face; of which 18 were cured, 8 died, and 5 recovered without being cured. In the 11 cases in which the artery was tied, to cure or arrest the growth of other tumours, 5 died, 4 recovered of the operation, but were not cured, 1 is stated to have been cured, and 1 required to be extirpated with the knife and caustic afterwards. So that the method has frequently succeeded in the cure of purely erectile tumours; but for non-erectile growths in this region, the facts show that, when alone depended upon, it has proved altogether ineffectual, and cannot be countenanced by sound surgery. Of the whole 42 cases, 20 were cured, 13 died, and 9 recovered, but were not cured; in 10 cases of erectile tumours, more or less pulsation returned; in 6 cases, hemorrhage occurred, 4 of which died. Of the 13 cases of death, 1 was from ulceration of the tumour, 4 from hemorrhage, 1 from convulsions, 1 from inflammation of the brain, 1 from phlebitis of the internal jugular, 1 from lock-jaw, 1 from inflammation of the chest, 2 from long-continued disease, and 1 from apoplexy. In 8 cases, very serious symptoms of affections of the brain were manifested.

f. Brasdor's Operation.—Of the 15 cases in which this was resorted to, 9 were done for aneurisms, or cases supposed to be such, of the innominata. of which 5 recovered and 4 died; in 2, derangement of the cerebral functions followed the ligature. Dr. Norris dwells upon the difficulties of diagnosis in these cases, and gives instances from the practice of celebrated surgeons of mistakes having occurred.

g. Ligature of both Carotids.—Dr. Norris recites 10 instances in which a ligature has been applied to both carotids, for various diseases. This double operation was occasionally successful in curing the disease. Sometimes it failed in doing so, but the patients recovered; and it was in several instances followed by the usual cerebral effects. Two of these cases have been recorded in the 'Half-yearly Abstract,' Vol. III, p. 127, and Vol. IV, p. 110.

h. Ligature of the Arteria Innominata.—Nine instances are given which uniformly terminated in death; the fatal results occurring at variable intervals after the operation, generally from hemorrhage. In two cases, the carotid and subclavian have been tied immediately as they arise from the innominata, but were fatal. Three cases are recorded in which attempts to secure the innominata have been actually made, and finally abandoned. Velpeau has formally proscribed the operation.

9. Among the more recent communications on the subject of aneurismal surgery we find a case of *inguinal aneurism* narrated by Mr. W. Lyon, of the Royal Infirmary, Glasgow, who tied the common iliac. The patient died fifty-four hours after the operation, apparently from shock. Also a case of *aneurism of the arteria innominata*, which Mr. Lyon treated by compression on Brasdor's principle, with rest, bleeding, regulated diet, &c. The treatment appeared to be beneficial, life being prolonged for twenty months after the disease had made great progress; but the patient died suddenly and unexpectedly from copious hemorrhage into the right pleural cavity, a large rent

having occurred in the aneurismal sac.* Professor Syme relates a case of cystic tumour of the neck, which presented all the symptoms and was mistaken for an aneurism; for which he put *a ligature on the carotid.* The patient died of secondary hemorrhage after a few days, and the true nature of the disease was revealed.† A case also of

10. *Ligature of the Common Carotid for removal of the Parotid Gland,* by A. B. SHIPMAN, M.D., Professor of Surgery in Indiana Medical College, is communicated by Dr. Norris.—Mrs. ——, æt. 70, of spare habit, but good general health, had a tumour at the angle of the jaw, of four years' standing, about the size of an orange, very hard, with lancinating pains through it. Previous to extirpation it was decided to tie the carotid, which was done by Dr. Shipman and Dr. Norman. At the commencement considerable hemorrhage attended, but the operation was finished, and the patient recovered; the wound healed, and the ligature came away on the twenty-eighth day. The patient was well one year from the operation, but the tumour returned again in the course of two years, and she finally sunk under it; but she recovered perfectly from the operation of tying the carotid. This was in May, 1844, and had never been reported before.‡

11. *Treatment of Teleangiectasy.*—Dr. Behrend, of Berlin, recommends, as superior to all other methods, cauterization with concentrated acetic acid, followed by the application of compresses soaked in vinegar. The erectile tumour is said to contract and to become hardened, pale yellow, and atrophied; an obliterating inflammation is produced which occasions coagulation of the blood in the vessels, with a thickening of the diseased part, so as to convert it into a tissue resembling parchment; a kind of eschar, which falls off, leaving the subjacent part quite dry. He recommends the subcutaneous division of the dilated vessels with a double-edged needle.§

Chelius and South give a full account of the various methods adopted for the cure of this affection; the former has a high opinion of caustic potash, where the swelling is broad and superficial; the latter has always removed the disease either with a ligature or knife;‖ the use of acetic acid is not mentioned by these authors.

§ II.—*Injuries and Diseases of the Head and Neck.*

12. *Extirpation of the Lachrymal Gland.*—M. Paul Bernard performed this operation, and M. Textor, of Würtzburg, has followed his example in a case of very intense epiphora. The case is fully described by M. Textor, junior, who observes, that the operation is not more difficult in the living than in the dead body. Those who believe that the secretion of tears is effected by other organs besides the lachrymal gland, will doubt the utility of this measure; but in the case in question, although the eye continued moist, it was completely successful.¶

13. *Excision of the Tonsils,—a novel, simple, and efficacious mode of arresting hemorrhage from.*—M. Felix Hatin describes a case of hypertrophied tonsils, both of which he excised with the *guillotine* at one sitting. The hemorrhage

* The Monthly Journal of Medical Science, Oct. 1847. † Prov. Med. and Surg. Journal, March 8, 1848. ‡ The Medical Examiner, Sept. 1847, p. 559. § Journal für Kinderkrankheiten, and Encycl. Nouv., Nov. 1847. ‖ System of Surgery, vol. ii, p. 279. ¶ Journal für Chirurgie und Augenheilkunde.

was at first moderate, and subsided on the use of an acidulated gargle. Two hours afterwards he was summoned to the patient, who had vomited a large quantity of blood, and was believed to be dying; he found the floor inundated with blood, the patient pale and sinking. On examining the throat, the blood was found to flow from the wound produced by the excision of the left tonsil; a saturated solution of alum, alum-powder, and the free application of nitrate of silver failed to arrest it; repeated vomiting of blood and faintings returned. Mr. Hatin feared the blood would find its way into the trachea, and he was about to apply the actual cautery, when a thought struck him, that having, in his surgical case, a pair of very long, straight forceps, intended to carry a ligature to a polypus at the posterior part of the nares, he might be able to compress the tonsil with these forceps and to arrest the hemorrhage. The extremity of one branch of the forceps was accordingly armed with pieces of agaric and linen, moistened with solution of alum, and the extremity of the other branch with pledgets of linen; the former was introduced into the mouth, and applied immediately on the bleeding surface, the latter passed naturally on the outside of the corresponding jaw, its extremity finding a point of support in the angle of the lower maxilla. For the purpose of compressing the tonsil it was only necessary to bring the branches of the forceps towards each other and tie them, which plan proved completely successful; the bleeding ceased immediately. On the following day there was slight tumefaction of the jaw, a little pain in the throat, and some fever. On the third day the forceps were loosened without using any force to separate the one which was incrusted on the tonsil; and on the fourth day this fell off of itself without any return of the hemorrhage.*

14. *Œdema of the Glottis.*—Dr. W. Jameson is the author of an important paper entitled 'Observations in Œdema of the Glottis, occasioned by the attempt to swallow boiling-water, illustrated by thirteen cases.'† In all these cases danger is imminent, although for a few hours the patient appears to suffer comparatively very little. Tracheotomy is imperatively called for when emetics, leeches, the application of heat, &c. fail in allaying the urgent symptoms. When the breathing becomes stridulous and croupy, or amounts to a mere pant, from the spasm of the glottis, the pulse being quick and small, the temperature of the body diminished, the head drawn back, the face congested, eyes half open, with inclination to coma and difficult deglutition,—from the first accession of these symptoms,—the operation is called for; but when they have lasted a sufficient length of time to cause complete coma, or if bronchitis or laryngitis has set in, then the operation will be useless. Dr. Jameson remarks very truly, that patients sometimes get well without any operation, and practitioners should bear this in mind so as to be guarded in their prognosis. We have heard it urged, in order to induce the friends to consent, that without an operation recovery would be *impossible* they pertinaciously refusing on the ground that they had rather the patient died than that the throat should be opened,—and after all, the patient has recovered. When the surgeon proceeds to perform the operation, he should be provided with the following instruments: an ordinary scalpel, scissors, forceps and retractor, a trachea-pipe, a gum-elastic catheter, and a small double hook, the latter being a more convenient instrument for laying hold of the trachea than a single one or any other contrivance. The circumstances to be attended to in its performance are—

1st. The cutaneous incision to be in the median line, otherwise the opening into the trachea will be valvular.

* Rev. Méd. Chir. de Paris, Dec, 1847, p. 335. † Dublin Quart. Journ., Feb. 1848, p. 59.

2d. Great caution in avoiding the thyroid veins, which, as well as the middle thyroid artery, constantly encroach on the median line.

3d. Great caution that the incision be not carried too low in the neck, thereby opening the fascia that is attached to the sternum, which helps to close the upper opening of the thorax, whereby there is not only danger of wounding the vena innominata, but also great annoyance may be experienced by the elevation and depression of the thymus gland.

4th. Never to open the trachea till we are certain that we have laid open the deep fascia that covers it, or we shall surely have a valvular opening.

5th. The operator should be prepared, in case of the supervention of spasm, when the trachea is seized by the hook, to cut the piece out rapidly; or should the patient not breathe instantly after this has been done, the surgeon must lose no time in passing a gum-elastic catheter into the trachea and inflating the lungs.

6th. Never enlarge the wound in the soft parts after the trachea has been opened lest a flow of blood should pass into it, and cause instant death.

7th. Blood may pass into the trachea the instant the opening is made, thereby producing violent cough, or even asphyxiating the patient. In either case the elastic catheter must be had recourse to, and life may be saved.

8th. Should a lymphatic gland present itself along the course of the incision, and tend to obstruct the passage of air into the trachea, it may be removed.

Immediately after the operation, as the patient is generally in a more or less collapsed state, we should give small doses of warm drink with hot jars around him, and have a warm temperature kept up in the room.

When reaction sets in, small and repeated doses of calomel, in combination with James's powder, ipecacuanha, or tartar emetic; if diarrhœa occurs, hydrargyrum cum cretâ, with Dover's powder, should be administered; or, if this will not check it, we may try small anodyne injections. But the principal danger to be dreaded, and which is chiefly to be guarded against and combated, is that arising from bronchitis, laryngitis, or pneumonia; and nothing is more likely to keep off their approach than inhaling a warm atmosphere, in conjunction with the use of calomel. If, however, any of these symptoms set in, they must be met by the ordinary measures used in such cases.

§ III.—*Injuries and Diseases of Bones.*

One of the most valuable works which has ever issued from the press on the subject of fractures, by Dr. R.W. Smith, of Dublin, is now before us; we are given to understand that it is the result of the careful observation and continued labour of years. It embraces some of the most difficult points connected with the subject, which are handled in the most masterly style; it is eminently both philosophical and practical, and its general utility is greatly enhanced by numerous illustrations which convey to the reader, more effectually than any description in words could do, the nicer shades of difference presented to the view by some of the more obscure cases of injury to the bones in the vicinity of the joints. The substance of some of the more important chapters is summed up in several series of corollaries, which have been introduced into a former part of our present Volume (Art. 40, p. 86.) We are induced, however, again to refer to the work, and to place before our readers some additional practical observations.

15. *Fractures of the Neck of the Femur.*—Mr. Smith's view of the value and diagnostic import of the two much disputed signs—shortening of the limb, and inversion or eversion of the foot, will be found in the article just referred to. He remarks that the surgeon who supposes the difficulties of diagnosis slight and easily overcome, can have but a very limited experience of such injuries; on the amount of shortening which occurs in the two varieties, the intra- and extra-capsular fracture, respecting which so remarkable a difference of opinion even now exists, he feels certain that the *degree* which immediately succeeds to the injury, may, with proper precautions, be considered as diagnostic of the *seat* of the fracture, this being *greater* when the lesion is external to, than when it is within, the capsular ligament. When the line of fracture, in intra-capsular fractures, is perpendicular to the axis of the neck of the bone, or when it has passed from the superior part of the corona of the head obliquely downwards and inwards, the inferior fragment is drawn upwards,—or at all events there is nothing to prevent its being so drawn upwards. But when the fracture runs from the inferior part of the corona obliquely downwards and outwards towards the summit of the trochanter major, then, if there be no displacement as regards the diameter of the bone, the ascent of the lower or external fragment, is opposed by the superior, and the amount of shortening is less than in either of the other cases.

If the force that acts upon the neck of the femur be inconsiderable, the fibrous membrane which encircles it—" the cervical ligament of the femur"—may escape uninjured, in which case the retraction of the limb will be inconsiderable, and will be at its minimum when the fracture has traversed the bone obliquely from the inferior part of the head downwards and outwards, as just now stated. The synovial and fibrous membrane remaining entire, may have the effect of keeping the fractured surfaces firmly together, and the limb may be thus secured from any change in length or position; or remaining entire on the anterior side, eversion may be wholly prevented, and again remaining entire on either side of the neck of the bone, shortening of the limb will be counteracted.

This author gives very cogent reasons against the assertion of Dupuytren, that the occurrence of shortening, at a period more or less remote from the receipt of the injury, as in an instance referred to by the surgeon of the Hôtel Dieu, in which, at the end of four months, it was said to take place *suddenly*, is attributable to the " yielding of the callus." Mr. Smith attributes the occurrence to the gradual process of absorption going on in the neck of the bone, though it might have escaped observation as long as the patient remained in bed with the limb inclosed in an extending apparatus. In the case here referred to, he doubts the fact of its having taken place *suddenly*. (p. 13.)

Mr. Smith has never seen an instance of fracture external to the capsule in which there was not a shortening of the limb from the very moment of the occurrence of the accident;—there is in many instances a primary and immediate shortening; and the so called consecutive displacement is merely an increase in the amount of shortening already existing. His experience also leads him to deny that a fracture of the neck external to the capsule ever occurs without injury to the trochanter; these fractures are always in the first instance *impacted* fractures, and all impacted fractures are necessarily accompanied by a fracture traversing some part of the trochanteric region. In a hundred specimens examined, without a single exception, a second fracture was found in this region. This is the necessary result of the impaction of the broken cervix into the shaft of the femur, and occurs secondarily in the order of time. The forces in play, and the manner in which this complicated injury is produced, are admirably discussed (p. 17),

the illustrative plates are most complete and instructive. They fully explain how it happens that the shortening is sometimes greater and sometimes less in the extracapsular fracture.

From what has already been stated, it will be seen that Mr. Smith does not agree with those in opinion who maintain that the shortening of the limb is a symptom destitute of value in determining the seat of the injuries with respect to the capsule; cases, it is true, frequently occur, in which this symptom is not of itself sufficient to determine the question; but suppose a surgeon meets with a case in which the shortening does not exceed half an inch, he knows that this may indicate a fracture either within or without the capsule, but he also learns from it, that if the fracture be external, it is also an impacted fracture; he then examines further, and if he finds it impossible, or extremely difficult, to restore the limb to its natural length by extension, that he cannot elicit crepitus, that the loss of power is not as complete, or absolute, as in fracture within the capsule, he at once connects these symptoms with the slight degree of shortening, and from their union he forms the diagnosis of extracapsular impacted fracture of the neck of the femur.

Roget's diagnostic sign is rejected, viz. the direction of the force by which the fracture has been produced as a means of arriving at a differential diagnosis as to the seat of the fracture.

As respects the difficulties of diagnosis in those comparatively rare cases in which decided and prominent *inversion* of the foot occurs, Mr. Smith, after stating that he regards them as being most frequently extracapsular fractures —in five cases out of seven this having proved to be their seat—proceeds to show that it is these cases which are specially liable to be confounded with luxations. Whenever the fractured portions of the trochanter can be brought into contact, a crepitus may be produced; but when, from the direction of the fracture, one portion of the trochanter has been drawn towards the great ischiatic notch, no crepitus may be discoverable; and a source of error will exist, from the resemblance of the fractured portion of the trochanter to the head of the femur; and if, with this circumstance, there should happen to be inversion of the limb, the difficulty of diagnosis will be increased; but the presence of this inversion should never be allowed to embarrass our diagnosis —the facility with which the limb can be brought to its natural length by extension—the recurrence of the shortening when the extending force ceases to act—and the possibility of flexing the thigh upon the abdomen, establish the diagnosis between fracture external to the capsule and further displacement of one or both trochanters.

The inversion of the foot in these cases is not produced simply by muscular action, as taught by some surgeons. Mr. Smith states, that the deformity having been removed by extension, as soon as the force ceases to act, the limb is again shortened, but the foot will now be found to remain everted. There is no instance in which, under similar circumstances, a fracture will exhibit opposite characters; and, with Cruveilhier, Mr. Smith believes that the inversion is attributable *to the relative position of the fragments of the bone*, rather than to the influence of muscular contraction. In every instance of fracture of the neck of the femur, accompanied with inversion of the foot, which Mr. Smith has had an opportunity of examining after death, the inferior has been placed in front of the superior fragment, and the author makes the suggestion, that in this position, the direction of the fibres of certain muscles being changed, the inversion is produced secondarily by muscular influence, but the question is one still open to investigation. Turning to the pages of systematic writers for an account of the various causes to which the

occasional inversion of the foot has been attributed by different surgeons, we find them given by Mr. South.* The doctrine of "partial fracture" of the neck of the femur, as laid down by Mr. Colles, and also by Mr. Adams,† according to Mr. Smith, has not been established; in all the cases of supposed partial fracture external to the capsule, there has been unequivocal testimony of the existence of fracture of the trochanter; and they are all cases of the impacted and complete fracture, rather than of partial fracture of the cervix. With respect to partial fracture within the capsule, as described by Mr. Colles, Mr. Smith is manifestly sceptical; he is disposed to believe that some mistake has been committed, the exact nature of which, since the specimens cannot be found, it is now impossible to ascertain.

The question, whether osseous union ever takes place in fracture within the capsule, is assumed in this work to have been satisfactorily answered in the affirmative. Bony union is not effected through the medium of a provisional callus; but, as in some other instances in the animal economy, is effected by direct union of the broken surfaces confronted to each other. Mr. Bransby Cooper's opinions on this subject were placed before our readers in our Second Volume; these opinions are rejected by Mr. Smith. Eight cases are given in the text illustrative of the affirmative of the question, but on this part of the subject we may refer our readers to our former Reports.‡

15. *The Treatment of Fracture of the Neck of the Femur.*—Mr. Vincent has some philosophical views on this subject.§ The injury is so close to the centre of gravity of the whole body, that every slight movement must produce motion between the broken parts, but these motions are only likely to take place in actions where there is a movement forwards, as in the movements of the head and limbs, which are nearly all forward and backward; while, therefore, the patient is on his back, there is a continual interruption to the curative process; but, on the side, there are so few continuous lateral movements, and perhaps not one in which the movement is about the centre of gravity, that in this position there is the least possible interruption to the uniting process; the centre of gravity is directly over the injury, and the whole weight of the body presses on the bones, and keeps them in apposition. Mr. Vincent has treated cases by this method, and they have turned out much better in restoring the powers of the limb than the plan usually adopted. The lateral position requires that the thigh should be bent on the trunk, and the leg on the thigh. The position of placing the patient half on the side and half on the back is doing little. The sound hip should be vertically over the injured one. However, the fact is, that the age of the subjects of this accident compels us to adopt the position on the back, and the inclined plane, as it is only in this way the functions of life, in the advanced stages, can be even tolerably well carried on. Moreover, as on the side the whole weight of the body is concentrated on the trochanter major, the chances of sloughing are much greater than when the pressure is spread over the large surface of the back.

The cases where the fracture takes place at the root of the trochanter, so that this process is still attached to the shaft of the femur, and the neck remains with the head, are not so common. The treatment of placing the patient on the side is the best, as it secures him from the jars and displacements that must occur when he is on his back; and as the cases are usually in individuals of less advanced age, as in the fracture of the actual neck, it can

* Notes to Chelius, vol. i, p. 565.

† Cyclopædia of Anatomy, art. 'Abnormal Condition of the Hip Joint.'

‡ Report on Surgery, vol. ii, p. 256, and vol. iv, p. 268.

§ [illegible]

in general be adopted. In this injury the fracture unites well as to strength, but usually leaving the limb shortened; and if treated on the back, without great care, with the foot much turned out.

16. *Fracture of the Lower Extremity of the Radius.*—Mr. Smith has some valuable remarks on Colles's fracture. In the first place, he has never seen it so high up as originally described by Dr. Colles; the most usual seat is from three quarters of an inch to an inch above the radio-carpal articulation; sometimes it is only a quarter of an inch above the joint, but he has never seen it higher than one inch; it always appears to be higher than it really is, but should the lesion of the bone take place at two inches or more above the joint, it no longer presents the peculiar and remarkable characters which distinguish the injury which has been designated after Dr. Colles. This particular fracture has also been described by many surgeons as an impacted fracture;* Mr. Smith's reasons for dissenting from this opinion are given in our Extracts. (Art. 40).

17. *Fractures of the Humerus.*—No surgeon can have been long in considerable practice without having met with difficulties in the diagnosis and treatment of injuries at the shoulder-joint. These injuries, so far as fracture is concerned, are most satisfactorily elucidated in Mr. Smith's work.† This surgeon defines clearly the fracture as seated at the *anatomical* neck of the bone, at the *line of junction* between the epiphysis and the shaft, and those which traverse the surgical head of the bone. The corollaries under this head in our present Extracts are well entitled to the attention of the practitioner. Instances are given of *fractures of the greater tuberosity*, one of which was inserted in our Fifth Volume (p. 87). The diagnosis of this particular case is laid down as follows: The acromion more prominent than natural, but the finger cannot be sunk into the glenoid cavity; no difficulty in approximating the arm to the side; the breadth of the joint greater, "nearly double" that of the opposite one; the existence of two tumours, the inner and larger placed under the coracoid process, and evidently constituted by the head of the humerus; the external and smaller apparently formed by the greater tuberosity, corresponding in situation to the glenoid cavity; these tumours separated by a deep and well-marked sulcus, following the direction of the bicipital groove. At first sight the appearances resemble those of dislocation of the head of the bone forwards, but the facility with which the elbow can be brought to the side, and the great increase in the breadth of the joint, are sufficient to establish the differential diagnosis.

The *extracapsular* impacted fracture, occupying the situation which marks the junction of the epiphysis with the shaft, and accompanied by penetration of the superior by the inferior fragment, is extremely difficult of diagnosis; the principal points upon which this is to be formed are given in our Extracts; but in the text Mr. Smith further directs, that in order to form a decided opinion, let the surgeon, with both hands, grasp the head of the bone with firmness sufficient to maintain it as nearly as possible in a fixed position, while an assistant rotates the elbow, by which method, in a majority of cases, crepitus can be produced.

The diagnosis of the *intracapsular* impacted fracture, as compared with that of the extracapsular impacted fracture, is simple; this is the fracture which traverses the anatomical neck of the bone, in which the superior fragment is driven into the inferior fragment, one of the tubercles being usually broken off from the shaft; thus this particular fracture of the humerus is analogous to the *extracapsular* impacted fracture of the cervix femoris, while

* Millar's Practice of Surgery, p. 313. † Page 176.

the former is analogous to the *intracapsular* impacted fracture of the latter bone.

In former Volumes the subject of bony union of intracapsular fractures of the cervix femoris has been laid in full before our readers; it is interesting to know the result of Mr. Smith's observations as respects this question in analogous fractures of the humerus. Mr. Smith states that, notwithstanding the unfavorable circumstances in which the bone is placed, as regards bony union, when a fracture has traversed the anatomical neck and there is no impaction, there is abundant evidence to prove that osseous consolidation may still be accomplished; but it is highly probable, where this fortunate result has occurred, the vascular communication between the fragment has not been entirely cut off, and that the margins of the fragments have remained here and there connected with each other, by the attachment of the capsular ligament, the vascular supply derived from which proved adequate to the preservation of the vitality of the head of the bone. Bony union in the impacted form is much more certain in consequence of the impaction.

The impacted fracture always unites with a certain degree of deformity, and as regards the intracapsular variety, it would be imprudent to restore to the joint its natural form, since we should thus materially diminish the chance of osseous consolidation. In the treatment of such cases, it is therefore sufficient to bandage the arm to the side, and to support the forearm in a sling; but the prudent surgeon will never omit to announce to the patient that a certain degree of impairment of the motions of the joint will be a permanent result of the injury.*

There are some other varieties of these injuries, and most important and interesting pathological and practical points, which we may have opportunities of referring to in future Volumes.

18. *Ununited Fractures; their treatment by a modified application of the Seton.*—After allusion to the irrationality of the methods by friction of the ends, of cutting down upon and sawing the ends, and the pressure of a seton between the ends of the ununited fragments, Mr. Francis Rynd publishes some cases in which a seton was applied successfully in the following manner. In an ununited fracture of the tibia and fibula, a curved seton-needle was passed into the inside of the leg, exactly opposite to the fracture, through the integuments, so deeply as nearly to touch the posterior internal edge of the tibia, it was then directed in a semicircular course anteriorly, over and close to the prominent extremities of the fractured bones, and was brought out on the outside of the limb, so that the fracture lay between the points of its entrance and exit; the seton not touching or passing between the fractured extremities of the bones. An ununited fracture of the humerus, of fourteen months' standing, was cured by this method; also a case of a ligamentous union of a fracture of the femur, of fifteen months' standing; also an ununited fracture of the patella was cured by the same method.†

19. *Badly-united Fracture.*—Mr. Rynd describes a very interesting case of deformity from a badly-united fracture of the bones of the leg, treated by resection of portions of the bones, and resulting in perfect recovery without deformity.‡ An incision was made four inches in length, commencing two inches above the deformity, parallel to and behind the posterior edge of the fibula; this incision severed the connexions of the soft parts with the bone in this direction; a similar incision was made along the posterior edge of the tibia. Those incisions were connected inferiorly by a transverse one in front, passing through the skin and integuments; the portion thus incised was dis-

* Lib. cit., p. 191. † Dublin Quarterly Journal, Nov. 1847, p. 273. ‡ Ibid., p. 288.

sected up, and formed a flap, which, being raised, exposed completely the deformed bones; a chain saw was then passed round the fibula, keeping close to it, in order to avoid the vessels, and the bone was sawed through above the deformed part, then below it, in a similar manner; the piece was firmly attached to the angular portion of the tibia, and so not easily removed; the deformed portion of the tibia was removed in a similar manner. The limb was then placed straight, the extremities of the bones in apposition, the flap was drawn down, it covered the whole wound, and was united by a few points of suture; the limb was placed in a case prepared for it, and the man put to bed; there was not a blood-vessel divided, nor was there an ounce of blood lost.

Profuse suppuration ensued; in the fourth week after the operation erysipelas set in, which extended all over the leg to the knee; two days afterwards, mortification set in along the line of incision, and soon engaged the greater part of the flap. At the termination of the seventh week after the operation, the aspect of the case was so bad that, after consultation, amputation was resolved on; the poor fellow begged for time, which was assented to; he struggled on, and, in little more than a month after this, a portion of the tibia exfoliated. He then began to get better, and, after nearly ten months' confinement, the cure was complete, his leg being straight and of the same length as the other. The patient's anxiety to have the deformity removed and the use of the limb restored, and the intolerable pain he suffered, were the circumstances which justified the operation.

20. Dr. Stark describes a "*Case of Dislocated Head of the Radius successfully reduced two years and one month after the occurrence of the dislocation.*" The author recites the opinions of Astley Cooper, Flanbert, Marx, and others, that dislocation of ball-and-socket joints may be reduced at a much later period than those of hinge-joints, but limiting even the former to a few months, and that the latter become irreducible within a very short period after the accident. As the chief danger in reducing old dislocations is said to arise from the risk of rupturing the muscles, blood-vessels, or nerves by violent efforts at reduction, it was determined in this case to extend the arm firmly, but gently, day by day, till the new adhesions at the head of the radius were so much lengthened, or the head so loosened from its new site, that by the employment of not much additional force, the bone could at last be replaced. The extension was effected by seizing the hand of the patient with the right hand, bending the elbow-joint so that the forearm formed a right angle with the arm, and applying the counter-extension by pressing the left hand close above the elbow-joint, and thus fixing the humerus. The extension was continued until slight uneasiness was complained of. It was repeated daily for three weeks, when the head of the radius had become loosened, and could be pulled to the edge of the articular head of the humerus. When brought into the latter position, the ball of the thumb of the left hand was pressed against it, and bending the forearm on the arm, the bone quietly slipped into its place.*

21. *Abscess of the Tibia.*—Dr. Hutton publishes cases of this disease, from which it is to be inferred—that inflammation of the cancellated structure of the bone may occur without terminating in suppuration—that after suppuration a cavity is formed, lined by an organized membrane, and containing pus alone, or pus with small fragments of the cancellated structure—that in most cases the osseous walls become denser and thicker, and the medullary canal blocked up, but where spontaneous openings occur, there, of course,

* Edinburgh Med. and Surg. Journ., Jan. 1848.

the walls are absorbed—that it is probable in most cases where the abscess heals the cavity remains, secreting fluid, which is again absorbed—that the temporary variations in the swelling depend upon the condition of the soft parts, but the firm swelling, which slowly extends itself along the shaft of the bone, depends upon the enlargement of the bony structure—this *progressive* enlargement, taken with tensive pain, aggravated at intervals and not yielding to treatment, with impaired health, supplies a valuable means of diagnosis—that in abscess of the cancellated structure, the swelling and pain occupy the extremity of the bone, and, unlike necrosis, the periosteum is often not sensibly influenced at first. As respects treatment, spontaneous openings, when they happily occur, bring relief, and the surgeon should certainly hasten this consummation; and although in simple purulent abscesses small openings may suffice, it is generally judicious to make a free opening to clear the cavity of all *debris*, and the probability of large articulations in their vicinity becoming implicated, is an additional reason for promptly giving exit to the confined matter.*

§ IV.—*Injuries and Diseases of the Urino-genital System, &c.*

22. *Lithotrity.*—M. Civiale has lately published a beautiful octavo volume on lithotrity, founded upon his unrivalled experience, his cases being reckoned by hundreds, and the mass of facts exceeding, perhaps, those contained in any other monograph in surgery. The work is entitled 'Traité Pratique et Historique de la Lithotrité,' and is divided into two parts, the first being an exposition of the *practice*, and the second of the *history* of lithotrity. The first part contains eight chapters.

1st. Of the instruments employed in lithotrity.
2d. Of the operation.
3d. Of the preparatory treatment.
4th. Of the application of lithotrity to different cases, simple and complicated.
5th. Of the after-treatment.
6th. Of the accidents from lithotrity.
7th. Of the arrest of fragments in the urethra, and of urethral lithotrity.
8th. Of the relapse of calculous affections after lithotrity.

The historical part is divided into three sections.

1st. Indications, more or less vague, of lithotrity before 1817.
2d. Origin and development of lithotrity in France.
3d. Sequel of the development of lithotrity in France and other countries.

On the 17th of August M. Civiale read a paper at the Academy, "Appréciation des Résultats de la Taille à l'Aide des Procédés de la Statistique." He collected 5875 of the most authentic cases of lithotomy; among which there were 1221 deaths, or 1 in 4·81, and he arrived at the conclusion—1st, That lithotrity skilfully performed, and limited to suitable cases, saves 96 to 98 of every hundred patients. 2d. That a fourth of the cases rebellious to lithotrity may be subjected to lithotomy. 3d. That by lithotomy applied exclusively, and without distinction of age, from 20 to 30 per cent. are lost. 4th. That applied to children only, lithotomy saves nine tenths. 5th. That applied to adults and old persons, it saves from 50 to 75 per cent.

23. *Spermatorrhœa.*—Mr. H. J, M'Dougall has furnished the profession in this country with a translation of Professor Lallemand's well-known work on this subject. The opinions and practice of the French surgeon have been so generally promulgated, that it is quite unnecessary to recite them at this late

* The Dublin Quarterly Journal, Feb. 1848, p. 279.

period; but we submit Mr. Phillips's practical remarks on the same subject to the consideration of our readers. (Ext. Art. 67, p. 133.)

The translator thinks that involuntary seminal discharges are little understood by the profession in this country, and he remarks truly that attention to them has been too generally avoided by regularly educated practitioners. In his preface he refers to the papers published by Mr. Phillips, in the 'Medical Gazette,' in 1843; also to contributions by Dr. Ranking, Dr. Dangerfield, and Messrs. Ryan, Chatto, Dudgeon, Curling, and Dr. Smyth, interspersed in various publications, as the sum of the literature of the subject in this country. In oral lectures and in the text-books of surgery, the subject is, by common consent, omitted. Professor Miller's 'Practical Surgery,' published in 1846, which contains a short notice on spermatorrhœa, is mentioned as the only exception. Mr. M'Dougall considers epilepsy as a symptom of spermatorrhœa, produced by masturbation; he refers to two uncomplicated cases of epilepsy following masturbation, in which, after the practice had been arrested, the effect ceased; and he considers it a question of considerable importance whether the paroxysm may be kept up by involuntary discharges, after having been once excited in the manner referred to. Mr. M'Dougall also regards as another symptom of spermatorrhœa the occurrence of urethral discharge from very slight excitement, frequently giving rise to the unfounded suspicion of the existence of gonorrhœa. He is a disciple of Lallemand's, as respects the utility of the application of the solid nitrate of silver.

Mr. Phillips, to whose paper we again refer our readers, has considerably modified the opinions which he formerly expressed. Without denying that a process of absorption may take place in the vesiculæ seminalis, he believes that a natural necessity exists for the excretion of the seminal fluid accumulated in these reservoirs. In some cases relief is obtained spontaneously; in others voluntarily, either by masturbation or sexual intercourse. The relief does not occur, in some cases, oftener than is consistent with health, whilst in others it happens so frequently as to interfere very seriously with the general health; but he is satisfied that in a majority of cases, where the health becomes affected, the discharges have not been involuntary at all. In 463 cases, in which he has been consulted, Mr. Phillips states that the discharge did not occur more frequently than was necessary to relieve the distended seminal vesicles, although, in most of them, the usual effects were painfully exhibited. The discharge in these cases is not usually frequent, and may continue for a long time without damage to the constitution, although there is always a risk that permanent irritation may be set up. The reader will at once perceive that Mr. Phillips places his reliance, in the treatment of these cases, on regulated and habitual sexual intercourse.

24. *Aphthæ of the Lower Part of the Large Intestine, commonly called Fissures.*—In a letter to M. Bretonneau,* M. Miquel maintains, in the first place, that fissures are always the result of small ulcerations, analogous to the aphthæ of mucous membranes generally; that spasm of the sphincters is always the effect and not the cause; that the irritation or disturbance continually produced by defecation perpetuates the affection; and, finally, that it is sufficient to change the character of the ulcer to cause the spasm to cease; that energetic astringents will effect this, and that an operation is required in a very small number of cases. During the employment of rhatany, or nitrate of silver, it is necessary to resort to oily and emollient enemata, for the purpose of keeping the bowels free, and preventing the fæces becoming solid. During the treatment a vegetable diet is to be preferred.

* Revue Médico-Chirurgicale, Fev. 1848, p. 85.

25. *Operation for Internal Hemorrhoids.*—Professor Riberi, of Turin,* seizes the base of the tumour, however high it may be placed, with a curved, pointed hook, or tenaculum, and draws it downwards; he then passes a second curved tenaculum through the base, at right angles to the first; the convexity of the curve of the instruments being directed upwards, and their points outwards from the anus. The two instruments are held by an assistant, a ligature passed behind them, and the tumour strangulated, after which the instruments are gently withdrawn. One extremity of the ligature is cut short, and the tumour returned into the rectum without puncturing it. A feeling of numbness is felt by the patient after the operation, to be alleviated by an injection of cold water. The ligatures separate about the third or fourth day, and the cure is complete from the twelfth to the twentieth. The operation has been uniformly successful in M. Riberi's hands.

§ V.—*Aural Surgery.*

In the 'Archives Générales'† an account is given of some important statistical researches of diseases of the ear by Dr. Kramer, of Berlin, the materials having been drawn from the most attentive examination of 2000 cases. The results are recorded in a journal, which comprises the name, age, and place of residence of the patient, the date of the attack, the causes of the disease, the existence or absence of tinnitus aurium, and other symptoms, the auditory power of each ear, the treatment pursued by the patient before applying, and that prescribed by the author, the duration of the disease, and its consequences. The results are arranged in 19 tables, and the 2000 cases consist of the following:

Diseases of the auricle	5 or $\frac{1}{400}$
,, external auditory canal	281 or $\frac{1}{7}$
,, membrane of the tympanum	442 or $\frac{1}{4\frac{1}{2}}$
,, middle ear	198 or $\frac{1}{10}$
Nervous deafness	1028 or $\frac{1}{2}$
Dumb deafness	46 or $\frac{1}{43}$
	2000

1st. *Diseases of the Auricle.*

Hypertrophy and induration	3
Erysipelas	1
Abscess	1
	5

2d. *Diseases of the External Auditory Canal.*

Accumulations of wax from erythematous inflammation of the lining membrane	213
Catarrhal inflammation	51
Phlegmonous inflammation	9
Periostitis with caries	8
	281

3d. *Diseases of the Membrane of the Tympanum.*

Acute inflammation	45
Chronic inflammation	397
	442

* Giornale dell' Academia Medico-Chirurgica di Torino.
† Nov. 1847: p. 335, from Beitrage zur Ohrenkeilkunde.

4th. *Diseases of the Middle Ear.*

Catarrhal inflammation of the mucous membrane with accumulation of mucus	164
Inflammation, with contraction of the Eustachian tube	28
Obliteration of the Eustachian tube . .	2
Inflammation, with abscess of the cavity of the tympanum	4
	198

The catarrhal, phlegmonous, and periosteal inflammations of the auditory canal were attended with running from the ear, but these constituted only one seventh of the cases of running. Of 510 cases of discharge, about six sevenths depended upon inflammation of the membrane of the tympanum. Nearly one fourth of all the cases of deafness met with are caused by inflam mation of the membrane of the tympanum, or its consequences, and in general the auditory canal does not participate in this inflammation. The great frequency of catarrhal inflammation of the middle ear depends upon its proximity to the nasal fossæ and throat, which are so frequently the seat of catarrhal inflammation; for instance, slight deafness is frequently observed in an ordinary coryza, which usually disappears with the catarrh, and is then most probably dependent upon the orifice of the Eustachian tube being affected, and rarely the cavity of the tympanum.

When one ear is affected with a discharge, the practitioner should never fail to examine with attention the auditory power and the organic condition of both ears, for a discharge may be too thick or in too small a quantity to make its way externally, and the patient's statement should never be trusted, for he frequently believes that the hearing is perfectly good, when on investigation it is found to be only a little less imperfect on one side than on the other. Of the 2000 cases, 1639 were cases affecting both ears, and 361 only were single affections. Dr. Kramer observed, in all the cases of phlegmonous inflammation of the meatus externus, one side only was affected, and that catarrhal and periosteal inflammation was much more frequently single than double. Of the cases of nervous deafness, 984 were double, and 44 single, or twenty-two to one.

Acute inflammation of the membrane of the tympanum rarely passes into a chronic state, as may be inferred from the extreme relative frequency of the latter. Mr. Wilde,* of Dublin, who has paid great attention to the subject, states, on the contrary, that the appearances of chronic inflammation of the drum are to be found as the sequelæ of all the other forms of inflammation, just as chronic succeeds to acute ophthalmia. As respects the complications of diseases of the ears in the same individual, Dr. Kramer found 38 cases only, where, one ear being affected, there was more than one disease, and 66 cases where, both ears being affected, there was more than one disease. The most remarkable complications were,—1. Accumulation of wax in the auditory canal on one side, and nervous deafness in the other (5 cases). 2. Chronic inflammation of the membrane of the tympanum on one side, and accumulation of mucus in the middle ear (10 cases); or nervous deafness (18 cases) in the other. Also, united in the same ear,—1. Accumulation of wax in the auditory canal, and of mucus in the middle ear. 2. Accumulation of wax, with nervous deafness. In general, however, in nervous deafness, the secretion of wax, as well as the mucous secretion of the middle ear, are decidedly diminished. 3. Catarrhal inflammation of the auditory canal, and a certain degree of inflammation of the membrana tympani, without any tendency in this inflam-

* Dublin Quarterly Journal, Feb. 1843.

mation to terminate in suppuration, ulceration, or any other change of texture.

In 305 cases of chronic inflammation of the membrane of the tympanum, with perforation, internal otitis occurred only six times; when perforation did not occur, an accumulation of mucus in the internal ear never presented itself. In this inflammation the reappearance of wax should be considered a good sign, as it indicates the cessation of the chronic inflammation.

Inflammation of the mucous membrane of the tympanum neither extends to the tympanum itself nor to the labyrinth; as soon as the mucus is evacuated the hearing is restored. Dr. Kramer was certain that in 164 cases of this nature the membrana tympani remained perfectly healthy.

For the purpose of *diagnosis* in diseases of the external auditory canal and of the membrana tympani, it is necessary to employ the *speculum auris*. Two thirds of the diseases of the ears have their seat beyond the field of observation, and in those of the middle or internal ear, catheterism of the Eustachian tube is of the greatest moment; it is here that the *tactus eruditus* and a fine sense of hearing constitutes the superiority of the experienced practitioner. By the ear especially he may appreciate the nature of the *bruit* which the air produces in penetrating into the cavity of the tympanum. The ear cannot furnish indications so certainly as the sight, but this is no reason for rejecting its assistance, and Dr. Kramer concludes that it is impossible to treat these affections properly without the aid both of the speculum and of the catheter; catheterism being performed in various ways.

Dr. Kramer considers the ticking of a watch the best term of comparison of the power of hearing in different diseases of the ear. A good ear will perceive this at a distance of 30 feet. Individuals who do not hear a watch tick when applied directly to the ear, cannot hear what a person says when speaking loudly and very close to the ear. The sense of hearing is a little better when the watch is heard by direct contact; but it is only when the patient can hear the tick at a distance of several inches, and especially several feet, that he can follow up a conversation. It is worthy of remark, that the susceptibility in the ear to perceive the human voice is not always in relation with the susceptibility to perceive the tick of a watch; it may be more or less susceptible as respects the one or other of these sounds.

The general result of an examination of the power of hearing in 3639 cases of diseased ears is, that in all diseases of the external auditory canal, of the membrane of the tympanum, and of the middle and external ear, deafness may proceed to a great extent; but it is especially in affections of the internal ear that it is most frequent and most complete.

In chronic inflammation of the membrana tympani, the general limit of the auditory power is from one to three feet (one foot in half the cases and three feet in one sixth of the cases). With organic alterations of the membrane, to all appearance analogous, the deafness may vary to a very great extent; and reciprocally, with great differences in the state of the membrane we may find divers degrees of deafness. This kind of contrariety is very frequent where a perforation of the tympanum exists, and is explained by the impracticability of recognising the changes, independent of the perforation, which may have been produced in the parts inclosed in the cavity of the tympanum.

Whenever in this case the patient cannot hear the watch, or hears it only at a very short distance, there is but little hope of re-establishing the hearing, although the inflammation be suspended; the prognostic is a little more favorable when the auditory power extends to several inches.

When the membrane was perforated in this affection, which occurred in 217 patients and in 305 ears, deafness was complete in 50 cases, the power of hearing

extended to one inch in 80, to one foot in 113, to three feet in 50, more than three in 9, and to a considerable distance in 3. In 180 patients and 359 ears, where perforation had not taken place, deafness was complete in 42 cases; hearing extended to an inch in 88, to one foot in 148, to three feet in 51, to more than three feet in 19, and indeterminate in 11. Complete deafness was proportionally more frequent as the perforation was of *small* dimensions, but hearing was much more frequently preserved intact when there was no perforation, so that little advantage could result from perforating the membrane of the tympanum. If, however, it should be deemed expedient in any cases to resort to this operation, the opening should be made rather large, since the hearing suffers much less from a large than from a small opening; but it is important to remark that if *very* large (the size of a lentil), the auditory power which remains does not extend so far as where the opening is smaller. The hearing was not completely preserved in any case of perforation, although in the most favorable cases, the patient could sustain a conversation with ease, so that a superficial observer might imagine that a partial destruction of the membrane is consistent with perfection of hearing.

In 676 ears affected with chronic inflammation of the tympanum, scarcely one in three was so affected independent of polypus or perforation; in more than two thirds, the membrane was perforated or covered with polypous vegetation; the two affections being united in 37 cases. Six sevenths of the discharges from the ears depended upon chronic inflammation, with perforation or polypi.

Tinnitus aurium existed in 117 out of 305 cases of perforation. In the 2000 cases it was observable in 1267; there was no trace of it in the deaf and dumb. In accumulation of wax in the meatus, acute inflammation of the membrane of the tympanum, and nervous deafness, it existed in three out of four cases; in catarrhal inflammation of the meatus, in phlegmonous inflammation of the same, internal otitis, and accumulation of mucus in the tympanum, it was as frequently absent as present; in chronic inflammation of the membrane of the tympanum, it was absent in two cases out of three.

Kramer's researches have led him to the conclusion, that tinnitus aurium is valueless as a symptom, it is rarely met with without some affection of the auditory power; but all its varieties accompany indiscriminately all the diseases of the ear, and every variety of disease may run through its whole course without presenting a trace of it, and without any obvious reason for its presence or its absence. Mr. Wilde, however, thinks it more than probable that a knowledge of the peculiarities of this symptom may yet be found to assist in the diagnosis of particular forms of deafness.*

Of all the diseases of the ear, according to Kramer, three only can be regarded as having an acute character, viz. erysipelas of the auricle, acute inflammation of the membrane of the tympanum, and phlegmonous inflammation of the lining membrane of the auditory canal.

Caries of the auditory canal occurs before ten years of age, and is generally dependent upon the scrofulous diathesis; acute inflammation of the membrane of the tympanum occurs from 20 to 40 years of age, and is independent of diathesis; and chronic inflammation of the same membrane is always connected with the scrofulous diathesis; two thirds of the cases occurred between the ages of one and ten years, and chiefly during the first two years, as a sequel to exanthema, and were chronic from the beginning.

Nervous deafness generally comes on very insidiously, being most frequently developed from 20 to 30 years of age, after the application of cold, or moral affections. It rarely occurs before 10 or after 60 years of age. It first

* The Dublin Quarterly Journal, March 1847.

affects one ear and makes slow progress, not attacking the other until the lapse of a considerable period.

Among the 2000 patients treated by Kramer, more than four fifths had always enjoyed good health, the disease being purely local, and local treatment alone was employed. In the remaining fifth there were complications, the most frequent being general nervous debility, coinciding almost exclusively with nervous deafness, and never with inflammation of the mucous membrane of the middle ear.

Inflammation of the mucous membrane of the tympanum is frequently connected with scrofula and with catarrh; the catarrhal affection may exist with nervous deafness, but this is rare.

Nothing is more difficult then to determine the causes of diseases of the ear; their origin is frequently unperceived, since there is rarely pain and deafness; a running or tinnitus aurium alone excites attention, although the affection may have commenced long previously. Of the 2000 cases, in 1109 the causes were totally unknown. Cold appeared to be the most common cause of acute inflammation of the membrane of the tympanum, and of phlegmonous inflammation of the external auditory canal; also a common cause of that inflammation which produces an accumulation of mucus in the middle ear and of the erythematous inflammation, which occasions an accumulation of wax in the meatus, and of inflammation of the glands of this latter canal. Nervous deafness and chronic inflammation of the membrane of the tympanum also frequently have their origin in cold.

Exanthems, especially scarlet fever, and other diseases of the skin, frequently occasion chronic inflammation of the membrane of the tympanum. Nervous and gastric fevers frequently occasion the same disease, and also nervous deafness; in two cases, gastric fever produced accumulation of mucus in the middle ear. Blows on the ear produced, in 3 cases, glandular inflammation of the canal; in 12, chronic inflammation of the membrane of the tympanum; and in 24, nervous deafness. This deafness may occur instantaneously in consequence of a physical lesion of the head or spine. Nervous deafness is frequently a consequence of violent chagrin, intense toothache, abundant hemorrhage, or the concussion caused by a very violent noise; it also appears to occur, under some hereditary influence, in one case in six.

Smallpox is the disease which destroys, most frequently, and to the greatest extent, the membrane of the tympanum, from chronic inflammation, but confined to one side; measles more frequently leads to perforation on both sides, and scarlatina and cold, although still very powerful causes, have less disastrous results.

Relative to curability, Kramer arranges diseases of the ear into four groups —1st, diseases certainly curable; 2d, diseases in which a cure is probable; 3d, diseases susceptible of amelioration only; 4th, incurable diseases.

1st. Among diseases certainly curable, whatever be their duration, degree, and the negligence with which they may have been treated, are placed, erysipelas of the auricle, furuncles, accumulations of wax, catarrhal and phlegmonous inflammation of the auditory canal, acute inflammation of the membrane of the tympanum, and catarrh, with accumulation of mucus in the middle ear. The tegumentous erysipelas of the membrane, which leads to accumulation of wax and of epidermic layers, readily subsides, and when the passage is cleared of the foreign bodies, the patient is immediately relieved. Catarrh and inflammation of the skin and glands give way to saturnine injections, revulsives, and purgatives. When complicated with dartrous and scrofulous affections, general treatment is required, and months may be necessary to effect a cure. Phlegmonous inflammation, if not arrested with leeches, passes rapidly to

suppuration; as soon as the abscess is opened, all the symptoms disappear, although the swelling may remain for some time, and occasion inconvenience. Acute inflammation of the membrane of the tympanum generally subsides in a few days, by leeching, revulsives, and injections. Inflammation of the middle ear, with accumulation of mucus, terminates in a cure by aid of those measures intended to expel the mucus and restore the membrane to its healthy secreting power, particularly by the use of the catheter and the air douche. In recent cases it is sufficient to blow through the catheter; when, however, the mucus has become viscid, only a temporary relief is obtained by this means. Dr. Kramer then employs the air douche, and he remarks, that the cold air gives tone to the membrane; to the local means, when there is a particular diathesis, and in particular scrofula, general treatment and an appropriate regimen must be added.

2d. Among the diseases, the cure of which is probable, are arranged—eczema of the auricle, periostitis with caries of the external auditory canal, chronic inflammation of the membrane of the tympanum, retraction of the Eustachian tube, nervous deafness. The chronic inflammation of the membrane of the tympanum is frequently connected with a general dyscracy, and the chances of cure depend upon our power of action upon the constitution, and upon the extent of organic mischief to the membrane. The membrane being considerably thickened, or perforated to a considerable extent, cannot be restored to its normal structure. Polypous vegetation may, in general, be removed, unless large, flat, and sessile; but since the membrane is at the same time hypertrophied and perforated, their removal can have but little effect. Dr. Kramer adds, if we consider that in half the cases of chronic inflammation this membrane is perforated, and in a quarter of the cases there are polypous excrescences, we may regard as successful treatment the cure of $\frac{1}{14}$th of the cases; and the amelioration, more or less, of $\frac{11}{14}$ths, that is to say, by lessening the suppuration and improving the hearing; in $\frac{2}{14}$ths there being no improvement.

Contraction of the Eustachian tube presents fewer chances of successful treatment than chronic inflammation of the membrane of the tympanum; in both cases the want of success arises chiefly from the prominency of the organic changes. Similar causes oppose the cure of *nervous deafness*, whenever the vitality of the auditory nerves has greatly suffered. In fact, these nerves have not only a diminished susceptibility to sonorous impressions, but also a morbid susceptibility to impressions of all kinds, which augments with the progress of the disease, hence the difficulty, and even the impossibility, of finding appropriate remedies, capable of acting upon the auditory nerves without injuring them. In 271 cases the patients could not tolerate any treatment, although they appeared to be in the most favorable state, as respects age and the degree of deafness. In 703 cases, hearing was improved, or the tinnitus aurium was diminished or suspended, in various degrees, by treatment. In 54 cases only, a complete cure was obtained. In the treatment, Dr. Kramer always has recourse to stimulating vapours, especially of distilled water, assafœtida, musk, and bitter almonds; he rarely employs any general treatment, and he has remarked that it rarely happens that any improvement is produced in nervous deafness by general remedies, although they may sometimes be useful before having recourse to local treatment, in order to re-establish the general health, if deteriorated.

3d. Among the diseases susceptible of amelioration only, the author places internal otitis, a disease the resolution of which may occur in rare cases, but which, in most cases, entails, independent of the destruction of the organ, real danger to life.

4th. The incurable diseases are only the obliteration of the Eustachian tube and deaf-dumbness.

Finally, Dr. Kramer is satisfied that an electro-magnetic current is a powerful stimulant of the organs of hearing, principally when directed from the inferior orifice of the Eustachian tube, towards the external auditory canal of the same side. This stimulant action manifests itself by convulsive titillation, and pains in the ear, with a temporary augmentation of the power of hearing, which is generally not of long duration; and also by the augmentation, at the time, or shortly after the operation, of the tinnitus aurium. It requires great prudence in its employment, and must be abandoned if the tinnitus aurium increases in a marked degree, without a favorable change in the power of hearing. Electro-magnetism is useful to verify the existence of nervous deafness.

—A very lengthy and most excellent article, to which we have already referred, "*On the Inflammatory Affection of the Membrana Tympani and Middle Ear*," will be found in the 'Dublin Quarterly Journal,' by W. R. Wilde, Esq. Mr. Wilde regrets that the modern systems of surgery contain but scanty information on diseases of the ear, and entertains the opinion that, if they were as well studied or understood by the generality of practitioners, and as early treated, as the diseases of the eye, they would be found just as much within the pale of scientific treatment. A minute description is given of the proper method of the examination of the ear, of the most convenient instruments to be employed, and of the appearances presented in health by the membrana tympani.

Myringitis is the designation adopted for the inflammation of this membrane, and inflammation of the middle ear is included under the same term, because the author does not believe it possible for one to exist independent of the other, for any length of time; no more than an ophthalmia can be circumscribed. Experience has proved to Mr. Wilde that the instances of "nervous deafness," that is to say, of deafness with *perfectly healthy* tympanical membranes, are comparatively few, but in such cases there are a variety of pathological appearances which he is fully convinced are the result of different forms of acute and chronic inflammation. In Dr. Kramer's work all the diseases of the membrana tympani are associated with those of the external ear, in Mr. Wilde's opinion, they belong equally, if not more, to those of the internal ear; chronic as well as acute inflammation of the membrane is accompanied with disease of the middle ear more frequently than disease of the auditory passage. Mr. Wilde shows the extreme probability, from analogy, that the 164 cases of inflammation of the mucous membrane of the middle ear, included in Dr. Kramer's 2000 cases, extending over the membrane at the back of the membrana tympani, as inflammation extends over the aqueous membrane lining the back of the cornea; and other remarks tend to show that Dr. Kramer has been led into error by his favorite theory of "nervous deafness." Mr. Wilde does not think it reasonable that 1028 of 2000 cases are properly attributable to an affection of the auditory nerve, since the most which can be said is, that in these cases the part capable of inspection exhibits no symptoms. In corroboration of this view, Mr. Wilde gives the following table of 708 cases of aural disease, registered at St. Mark's Hospital during three years, in which the proportion of cases of nervous deafness is, in round numbers, only one in five:—

DISEASES.	Ages and Sexes.										
	under 5		6–15		16—30		31 and up.		TOTAL.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Gen. Total.
Otitis	3	1	9	3	8	6	9	8	29	18	47
Acute Myringitis . . .	—	2	4	5	10	9	4	5	18	21	39
Chronic Myringitis . . .	—	1	8	6	15	15	20	17	43	39	82
Abscess in Membrana Tympani	—	—	1	—	—	—	1	—	2	—	2
Granular Membrana Tympani .	—	—	—	—	1	1	2	1	3	2	5
Collapse of ditto . . .	—	—	1	1	1	1	1	5	3	7	10
Otorrhœa	13	8	39	38	31	37	10	9	93	92	185
Do. with Polypus . . .	—	—	7	5	6	3	2	1	15	9	24
Do. with Perforation . .	—	—	1	—	1	1	—	1	2	2	4
Nervous Deafness . . .	—	1	9	4	11	14	34	21	54	40	94
Tinnitus Aurium . . .	—	—	—	—	1	7	2	4	3	11	14
Otalgia	—	—	—	—	1	1	1	1	2	2	4
Hemorrhage from Ear . .	—	—	—	—	1	—	—	—	1	—	1
Deafness from Cerumen .	1	2	8	8	14	12	73	43	96	65	161
Chronic Inflammation of External Meatus . . .	—	—	2	1	4	3	—	3	6	7	13
Contraction and Ulceration of do.	—	—	1	—	—	—	—	—	1	—	1
Eczema of Auricle and Meatus	3	1	2	1	1	2	—	5	6	9	15
Congenital Malformation . .	—	—	—	—	1	—	—	—	1	—	1
Deafness from Disease of Throat	—	—	2	1	—	1	1	1	3	3	6
	20	16	94	73	107	113	160	125	381	327	708

Mr. Wilde distinguishes the following forms of inflammation of the membrana tympani:—

I. Acute inflammation of the membrana tympani, accompanied by inflammation of the cavity of the tympanum; frequently of a rheumatic character.

II. Subacute inflammation, accompanied by pain.

III. Chronic inflammation, with or without inflammation of the tympanum.

IV. Strumous inflammation.

V. Syphilitic inflammation.

VI. Febrile subacute inflammation, accompanying the exanthemata and other fevers; generally producing otorrhœa.

In our Extracts we have given Mr. Wilde's account of the physical signs, and his treatment of acute myringitis and tympanitis (Arts. 43 and 53). We have also recorded his account of chronic myringitis (Art. 44). In the subacute affection, Mr. Wilde states the first symptom is deafness, which has appeared rather suddenly; it may be perfectly painless, but as destructive to hearing as the acute affection, and it may be, but is not always, accompanied by tinnitus, and, generally speaking, there are no constitutional symptoms; the deafness which ensues is of the most irremediable nature, and the author is convinced that such cases have been repeatedly treated as "nervous deafness." It is important to note that, according to Mr. Wilde, in this disease mercury is as necessary as in acute myringitis, except only that it should be slowly introduced into the system, so as to produce a steady and gradual effect. It will be seen in the articles extracted, but we may here repeat, that

Mr. Wilde's principal remedies in myringitis are leeching and antiphlogistics, generally with *mercury*, and the local application of nitrate of silver.

—A work has been recently published by Mr. Yearsley,* on the subject of diseases of the ear, the object of which is reported† to be, the proving that nine tenths of the cases of deafness which come before the practitioner will be found to have originated in a morbid affection of the mucous membrane lining the throat, nose, and ear. All the results of myringitis described by Mr. Wilde are referred by Mr. Yearsley to this as their origin. We have not this work before us, but we cannot help remarking the diametrically opposed opinions of Mr. Wilde and Mr. Yearsley on the subject of treatment, as shown by the following extract:—

"If I were asked," Mr. Yearsley says, "to name, in the order of their frequency and importance, the chief causes which give rise to the condition of mucous membrane, and subsequent loss of hearing, which I have described, I should thus place them: 1, cold; 2, the exanthemata; 3, dyspepsia; lastly, *mercurial medicines*. Some of the extreme and most unmitigable cases of deafness I have ever witnessed were produced by severe salivation; and I must confess that I never saw a case of this kind, of any standing, which derived decided benefit either from local or constitutional treatment. If there is in the materia medica a medicine which has the power of acting as a poison to the sense of hearing, where there exists predisposition to deafness, I believe it to be *mercury*. Of course, my strictures are directed not so much against its exhibition as a purgative or alterative, though *even here it is dangerous to the deaf*, but when given to its *specific* effect. From watching the progress of many cases, and from the analogy of the symptoms produced by mercurialization, with those affecting the guttural and aural mucous membrane in influenza, dyspepsia, and the exanthemata, I believe mercury, like them, injures the sense of hearing through the medium of the mucous surfaces. Long after the salivary glands have ceased to be affected, an erythematic state of the throat and fauces remains, often by its persistence affecting the Eustachian tube and tympanum in the manner I have described when chronic catarrh has been the exciting cause."

Mr. Yearsley argues with Kramer on the advantage and necessity of catheterism both in diagnosis and treatment.

—Dr. James Bryan, of the Academy of Medicine, Castleton, U.S., has communicated some very sensible observations on the erroneous principles which have led to a neglect of purulent discharges from the ears. The considerations which have led to non-interference in these cases are—1st, that such discharges act as a diverticulum of nature, which it is dangerous to interfere with; 2dly, they very frequently heal of themselves, leaving no great derangement of the organ. Dr. Bryan points very forcibly to the evils of the prolongation of this disease; he describes the pathological appearances presented, his experience fully confirming that of the British and German surgeons quoted in the present and former Volumes of the 'Abstract.' Dr. Bryan states that the practitioner is not justified in allowing a discharge to continue *a single day in any case*, without appropriate remedies, but, on the contrary, he should be as anxious to arrest it as if it were a purulent ophthalmia, or any other inflammatory affection of the eyes.‡

* Deafness Practically Illustrated; being an Exposition of Original Views as to the Causes and Treatment of Diseases of the Ear.

† London Medical Gazette, Dec. 1847, p. 1017.

‡ Medical Examiner, Sept. 1847, p. 523.

OPHTHALMIC SURGERY.

(*Continued from* Vol. VI, p. 289.)

§ XI.—*Operations for Artificial Pupil.*

Following the anatomical classification adopted by Professor Desmarres, according to the plan laid down in the first part of this Report (Vol. VI, p. 255), we now proceed to supply the omissions then made.

The subject of artificial pupil occupies 53 pages in Dr. Desmarres' work; five processes are enumerated, as follows; the first four of which have been modified in a thousand different ways. 1. Iridotomia (*incision, Cheselden's operation*). 2. Iridodialysis (*separation, Coredialysis*). 3. Iridectomia (*excision, Corectomia, Wenzel's operation*). 4. Corectopia (method of Adams, Himly, and Guépin, by *inclosure* or *distension.*) 5. Dilaceration (*Desmarres' method*).* Mr. Jones describes three principal modes—incision, excision, separation.†

33. *Dr. Desmarres' method of dilaceration* is proposed as a substitute for the process of separation, applicable only to the cases of complete anterior or posterior synechia, separation at the ciliary ring being frequently followed by severe accident. He considered that there might not be more inconvenience in breaking the adhesions between the iris and the cornea, or the iris and the capsule, than in breaking down the ciliary attachments of the diaphragm, and practice having demonstrated that good results may be obtained in that way, he frequently substitutes his own method for that of Iridodialysis.

1st. He punctures the cornea with a lance-shaped knife, straight or curved, according as he operates upon the internal or external edge of the cornea. 2d. A pair of curved forceps being held with their convexity forwards are introduced into the anterior chamber, closed, and pushed forwards to the place where the iris has contracted adhesions with the cornea or capsule, the branches are immediately opened to the full extent that the wound of the cornea permits, and exercising a slight pressure from before backwards upon the iris, the latter is seized by the instrument. The portions of the iris comprised between the extremity of the forceps and the morbid adhesion bend and form into folds, when, by a rather brisk traction, he draws the forceps towards him, separates the iris from its adhesions, and immediately recognises, by its black colour, the bottom of the eye. As soon as the adhesions of the iris are broken, even to the smallest extent, the portion laid hold of is easily drawn outwards; the artificial pupil which results, takes a triangular or quadrilateral form. 3d. The iris held by the forceps should be brought through the corneal incision, and excised with the curved scissors as near as possible to its ciliary attachment, as in the third stage of ordinary excision. If the defective method of corectopia or distension be preferred, the iris must be left in the corneal wound.‡

34. *A Modification of Iridectomia* (Wenzel's operation) has been recommended by M. Stœber. When the pupillary border of the iris is adherent through its whole extent to the opaque capsule of the lens, which is generally produced by

* Lib. cit. p. 432. † Lib. cit. p. 203. ‡ Lib. cit. p. 474.

chronic inflammation of the iris and of the capsule of the lens, the only efficacious means, he states, of giving sight, consists in extracting the lens and excising a portion of the iris. This is done in Wenzel's operation; which consists in cutting out at the same time a semicircular flap, both of the cornea and of the iris, then extracting the lens, then laying hold of the flap of the iris, and excising it. But the last part of this operation is frequently difficult, the surgeon may even be obliged to give up the operation, because the cornea, the iris, and the capsule of the lens being incised together, a part of the vitreous humour frequently escapes by the wound made in these membranes.

To remedy this inconvenience, M. Stœber suggests the following modification, which he has already adopted in the living subject. In the first place, he cuts out a flap of the cornea, as in extraction, leaving the iris intact. Secondly, he makes an opening in the iris sufficient to serve for a pupil and for the passage of the lens. For this purpose he thrusts a small hook into the iris, towards the middle of the space comprised between the ciliary and pupillary borders, he raises the iris by drawing lightly on the crochet, and excises with curved scissors, on their flat surface, the portion raised by the hook. He tries to include in this excision as large a portion of the iris as possible. Immediately afterwards the lens escapes; for in excising the iris the capsule is opened, at least in those cases where the pupillary border of the iris adheres to this capsule. The operation being terminated, the eye is immediately closed, and there is no fear of the escape of the vitreous humour.*

—*Drilling* is another plan for restoring an obliterated pupil, described in the works before us.† The late Mr. Tyrrell recommended a modification of division by corneal puncturation, which he designated by this title. He passed a very fine straight needle, of uniform thickness, somewhat obliquely through the cornea at the outer part, and then directing the point towards the anterior capsule of the lens, close to the inner margin of the pupil (taking care not to injure the iris), and causing the instrument to penetrate the capsule, and enter the substance of the lens, to the extent of about one sixteenth of an inch, he rotated the handle of the needle between the forefinger and thumb, so as to make the point act as a drill, and then withdrew the needle. An opening was thus secured more free than would be effected by a simple puncture.

He usually had to repeat this operation seven or eight times, at intervals of from three to five weeks, taking care to puncture the opaque capsule in a fresh place at each operation, before the pupil was cleared. The operation in no instance produced inflammation of any consequence, and did not confine the patient for more than two or three days.

In a few instances it was necessary to make an artificial pupil subsequently, by incision with Mannoir's scissors.

—Mr. W. R. Beaumont has described a kind of *forceps* for *seizing the iris* and detaching its ciliary margin from the corpus ciliosa, or for drawing any portion of the iris through a wound in the cornea. He found, on the dead subject, that the simple fine hook sometimes tears its way out of the iris instead of detaching it, whereas, with his own forceps, neither on the dead or the living subject, did this laceration without detachment take place; nor did he fail, in any instance, in seizing the iris, at the first attempt, close to its ciliary margin. The forceps are bent, the point where the blades are closed are perfectly smooth, the teeth being there concealed, so that the instrument may be introduced into the anterior chamber, without risk of wounding any other part than that portion of the isis which it is the operator's intention to

* Gazette Médicale, 10 Avril, p. 279.

† Jones, p. 289; also Brett on Cataract, Artificial Pupil, &c., p. 73.

seize; they are introduced closed through the wound in the cornea, and should not be opened until the points reach the ciliary margin, or that part of the iris which it is intended to seize; the points should then be pressed gently against the iris, and the blades closed by the thumb and under finger, when they cannot fail to seize the iris, and hold it with sufficient firmness for the completion of the operation. A plate of the instrument accompanies the paper.*

—The following is an abstract of the *general rules* laid down by Professor Desmarres relative to the operation of artificial pupil.

The operation is indicated when one of the eyes having been destroyed, the other is affected with a complete, or nearly complete, occlusion of the pupil by false membranes (*synechia posterior*). When the occlusion is complete, *excision, separation,* or *dilaceration* may be resorted to. When the occlusion is incomplete, *excision* and, in some instances, *distension* is applicable. The operation is indicated also when the pupil is completely, or nearly completely, obliterated by a synechia anterior. *Dilaceration* is applicable in complete cases; *excision* when only a small portion of the pupil has been preserved, or, in the latter case, *distension* may be employed. An artificial pupil is also indicated when there is a central speck of the cornea; *excision* is the operation to be preferred in this case. The operation is indicated, lastly, when a large solution of the cornea is imminent from ulceration, there being danger that the natural pupil will be destroyed altogether, *excision* and *distension* being in such cases the processes to be resorted to. An operation is also sometimes required for blindness from the persistence of the pupillary membrane, in atresia pupillaris, in opaque and transparent staphyloma, and owing to the existence, as from syphilis, of false membranes, which diminish or obliterate the pupil.

A. *In general when the patient sees with one eye, the operation for an artificial pupil is considered as contraindicated;* but there is great exaggeration in the fears entertained upon this subject. Mr. Jones lays it down as a principle, that an operation is not to be thought of, unless the patient has lost all useful vision with both eyes.† According to Dr. Desmarres' personal experience, the operation may be performed without risk when one eye is *sound,* particularly under certain conditions; far from a negative result, owing to a disturbance of the vision (*diplopia*), a certain improvement of the sight takes place. Desmarres has done the operation six times in one year, without a patient having once had to repent it. The indispensable conditions when one eye is sound are, that the natural pupil is wholly or in part obscured by a leucoma; that it has been only incompletely destroyed by anterior or posterior synechia; that the internal edge of the cornea remains transparent. In every case wherein an artificial pupil is established on the internal side of the eye, the optic parallellism may be preserved, and vision will be improved when both eyes are open.

B. *Should an operation be performed upon an eye which allows a patient to walk alone?*—This may be answered negatively or affirmatively. If nearly the whole cornea be diseased, it is evident that no experiment ought to be made; but when the cornea is transparent over a great part of its surface, the pupil very small, and the iris healthy, an artificial pupil is indicated. To refuse to operate in such a case is, in Dr. Desmarres' opinion, to merit the reproach of timidity—excision or distension are indicated.

C. *The eye to be operated upon should not exhibit any trace of the inflammation which has produced the occlusion of the pupil.*—The operation should

* London Medical Gazette, March 1847, p. 502. † Lib. cit. p. 204.

not be done until a long time after the inflammation has subsided. It should be deferred if any serious affection of the eyelids, as ectropium, obstinate trichiasis, &c., exist; when the conjunctiva is granulated or varicose; in confirmed atrophy of the bulb; in hydrophthalmia, and in very old synchisis complicated with occlusion of the pupil by false membranes.

D. *The cornea should be transparent over a sufficient extent.*—This must have reference to the subsequent loss of substance in the iris. Without this condition, the result of the operation would be neutralised.

E. *When thick plastic exudations have closed the pupil, and the occlusion is complete, is an operation indicated?*—It is seldom that the crystalline apparatus is not affected; the opacity is sometimes confined to the capsule, and at others extends to the lens. The operation is not contraindicated, the cataract may be destroyed at the same sitting, immediately after the artificial opening has been made, or at some more distant period, if anything should prevent its being then proceeded with.

F. *Before an artificial pupil is made, the state of the retina must be ascertained.*—It is of the first importance to know whether the retina remains sound, and that there be not an amaurosis besides the occlusion of the pupil. It should not be forgotten, however, that although one may lay it down as a principle in general, that the patient should distinguish day from night, there are exceptions wherein the eye does not perceive a ray of light, and yet the patient is not amaurotic. Numerous observations have put this fact beyond doubt, and patients before now, in these sad circumstances, have recovered their sight by an artificial pupil. Besides the false pupillary membrane, they have been affected with a soft cataract, which intercepted the rays of light.

G. *The iris should be the great object of attention.*—When it is of a dirty colour, or of a reddish-green tint, its fibres having lost their normal aspect, it may be expected to tear under the use of instruments, and other formidable inconveniences result, compromising the success of the operation.

H. *If a patient presents in one eye an occlusion of the pupil, and on the other a simple cataract, the latter should be operated upon, the chances of success being greater.*—Still, if vision be interfered with by a central leucoma, or by an incomplete anterior or posterior synechia, and it appears to be possible to replace the pupil by excision or permanent distension on the internal side, it would be better to do this operation than that for cataract, especially if the lenticular opacity is not complete.

I. *The age of the patient should be considered.*—Some have recommended that an artificial pupil should not be attempted before puberty, others have fixed the period at from six to eight years. There is no reasonable motive to deprive an infant of the chances of the operation during so long a period, if there be no general complication to prevent its performance.

J. *General complications must be considered;* such as pregnancy, the climacteric period, the existence of any constitutional disease, or of any specific affection, as syphilis, and of epidemics,—the operation should in these cases be averted. When the iris is disorganized under the influence of syphilis, the chances of the success of an artificial pupil are singularly diminished.

K. *An artificial pupil should, in general, be larger than a natural one.*—It should be nearly equal in size to the natural pupil in the evening by a moderate light; still there are cases in which a very small opening suffices for vision. If, on the other hand, too great a portion of the iris be removed, the patient will find himself under conditions analogous to those which attend mydriasis.

L. *Place in which an artificial pupil should be made.*—This should be as near the centre as circumstances will allow; but obstacles generally exist to

its being placed there, and it frequently becomes necessary to open the iris at some part of its circumference. When this is the case, authors disagree very much as to the best situation. Tyrrel, Mannoir, and others, advise the temporal edge; Jæger, Sanson, Mackenzie, prefer the internal edge. Desmarres believes that the internal angle should be preferred, then the lower, then the external inferior. If an artificial pupil is to be made in both eyes, he remarks, it should not be done on the temporal side, which would give a disagreeable appearance, and cause diplopia; but, if the state of the parts will permit,—1, inwards; 2, inwards and downwards; 3, downwards; 4, upwards; 5, within in one eye, without in the other, taking care that the parallelism of the two optic axes is possible.

M. M. Tavignot has furnished the Academy with *a case of artificial pupil*, successfully made, nothwithstanding the *absence of the anterior chamber of the eye*. He maintains that the adhesion of the iris to the cornea is by no means a contraindication to the formation of an artificial pupil. A woman, 57 years of age, had been operated upon for cataract by extraction unsuccessfully, the cornea maintained its usual convexity, its inferior half being opaque, its superior half perfectly diaphanous. The iris appeared to adhere closely to the opaque portion, and to be in apposition with the other portion. Accordingly, the anterior chamber no longer existed. That portion of the iris which could be seen appeared to be unaltered in colour and texture. The pupil, contracted to a pin's head point, was obliterated by a grayish-white false membrane. Vision was completely destroyed, the patient barely distinguishing day from night, as the other eye was destroyed. An artificial pupil was made at the superior and external part of the iris by *excision*; no accident occurred, the blood effused was rapidly absorbed, the new pupil was of an oval shape, its great diameter directed from above downwards, and from without inwards; it was large enough to lodge a pea; its internal half was obliterated by the anterior capsule of the lens, became opaque and adherent to the iris after the operation for cataract; but its external half remained free and sufficient for the exercise of vision.*

36. *Corectopia, or altered position of the pupil*—usually accompanied by irregularity of its form, is, according to M. Duval,† almost always accidental, sometimes associated with synechia posterior; more frequently after extraction of a cataract, for example, with synechia anterior, followed by a staphyloma of the iris. In one case, the globe of the eye was penetrated by a knife through the sclerotica, six millimetres from the edge of the cornea, towards the greater angle; hernia of the choroid coat occurred through the wound, and the iris was drawn towards it, so that the pupil was elongated transversely into an angle contiguous to the corneal limb. It is in this way that staphyloma of the choroid in cirsophthalmia, some glaucomas, &c., are almost always accompanied with displacement of the pupil towards the sclerotic tumours. Corectopia constitutes again an ingenious mode of coremorphosis imagined by Adams. Where the pupil is free, and the centre of the cornea is occupied by a leucoma, Adams proposed a small opening in the corneal tunic, not far from its limb, and the introduction of delicate forceps for the purpose of hooking the iris, and uniting it to the wound in the cornea. This is the *permanent distension of the pupil*, so denominated by Guépin, the fourth mode of forming an artificial pupil, referred to at the commencement of this article, its object is to draw the pupil to the edge of the leucoma. Many inconveniences attend this operation, which is justly abandoned.

Eccentricity of the pupil as a primary organic effect is very rare. In many thousand cases M. Duval has met with it but once.

* Gaz. Méd., 27 Nov., 1847, p. 953. † Ibid., 20 Mars, 1847.

§ XII.—*Diseases of the Capsule.*

37. *Capsulitis.*—This affection is for the most part chronic, rarely acute. It is seated particularly in the anterior surface of the capsule; it accompanies other inflammatory affections of the membranes, and is especially associated with iritis, in its first degree, and punctated corneitis, and is frequently an aquo-capsulitis. It is characterised by a bluish cloud at the bottom of the pupil, at first not easily recognised, but gradually increasing, and as it progresses, the iris becomes involved, adhesions taking place between it and the capsule, constituting *posterior synechia.* After the affection has continued some time, remarkable vascular ramifications traverse the membrane, and plastic and fibrous deposits take place. There is no pain in capsulitis, only a sense of tension and compression in the globe or bottom of the orbit, augmented under the influence of light. Its terminations are resolution, occasionally suppuration, synechia, several varieties of cataract, and complete or incomplete obliteration of the pupil. The anatomical and physiological symptoms are given minutely by Professor Desmarres, and the treatment is antiphlogistic, the indications being the same as in iritis. When the posterior surface of the iris and the anterior wall of the capsule is the seat of the disease, the term *uveitis* is employed by Jones* and other authors.

38. *Ossification of the Capsule.*—This is not so rare a disease as might be supposed; the lens is sometimes atrophied, and sometimes ossified also. Cases are recorded by Gibson, Wardrop, and especially by Middlemore.

§ XIII.—*Diseases of the Crystalline Lens.*

These are—1st, *luxation;* 2d, *ossification;* 3d, *lentitis;* 4th, *cataract.* Dr. Desmarres holds that the lens itself is subject to inflammatory action, as indicated by its opacity after injuries. He remarks that the contact of the aqueous humour, when the capsule has been injured, is not alone sufficient to account for this opacity. He has known a lens remain transparent for two months in the anterior chamber; and Cammerer describes a case in which, under similar circumstances, it remained transparent two years. Jones remarks that the lens itself may become opaque, dissolved, and even the seat of suppuration, and that vessels have been observed shooting into it from the inflamed capsule.†

39. *Regeneration of the Lens.*—Mr. Jones states that Pauli, Lowenhardt, and, Textor have repeated the experiments on regeneration of the lens in animals with success. Textor communicates some new cases of regeneration of the lens in man, after operations for cataract. The proof that the newly-formed substance possesses the same intimate structure as the lens has at last been supplied by Valentin's microscopical investigation of the subject ‡

40. *Cataract—classification of its varieties.*—Since the time of Beer cataracts have been divided into *true* and *false.* Dr. Desmarres adheres to this division, which does not appear to be attended with the inconveniences which some authors imagine. Among the true cataracts are arranged those which have their seat in the lens, or its capsule, separately or simultaneously; among the false cataracts are placed *opacities* seated in the pupil, and produced by the organization of a fibrinous, purulent, or sanguineous material. Here also is placed the *pigmentous* or *uveal* cataract. It has been said that a false cata-

* Lib. cit. p. 86. † Ibid. p. 88. ‡ Ibid.

ract is no cataract at all; but this, Dr. Desmarres remarks, is evidently only an affair of words, since, in effect, the opacity is seated in the pupil, and prevents vision.

CLASS I.—TRUE CATARACTS.

a. Lenticular cataracts	Hard . . .	Green. Black. Osseous. Stony, or chalky.
	Soft . . .	Striated, etiolated, barred, dehiscent, with 3 branches, &c. Disseminated, or dotted. Congenital. Traumatic. Glaucomatose.
	iquid . . .	Morgagnien, or interstitial. Cystic, purulent, fetid.
	Other varieties—soft, hard, or liquid .	Shaking, or floating cataract. Luxated cataract.
b. Capsular cataracts	Anterior . . .	Pyramidal, or vegetant.
	Posterior . . .	Arid siliquose.
c. Capsulo-lenticular cataracts . .	All the varieties of lenticular and capsular cataracts.	
d. Secondary cataracts	Lenticular. Capsular. Capsulo-lenticular.	

CLASS II.—FALSE CATARACTS.

Fibrinous cataracts.
Purulent cataracts.
Sanguineous cataracts.
Pigmentous cataracts.

This arrangement has all the advantages of a classification according to the seat of the affection, and it also indicates the different degrees of density which the lens presents. The arrangement adopted by Mr. Jones is essentially the same.*

The article "Cataract" occupies 170 pages, so that we cannot be expected to do more than allude to a few of the more important points. The disease is defined "*a total or partial opacity of the crystalline apparatus.*" After describing the anatomical and physiological symptoms, the causes, predisposing and occasional, the progress and prognostics of cataracts in general, Dr. Desmarres proceeds to treat of the classes and varieties seriatim.

The character, as remarked by the author before us, which is of the most importance to distinguish the species of *lenticular cataract* is consistence, which has also reference to the kind of operation for their cure; but since this consistence cannot be ascertained in a direct manner before an operation, the strictest attention must be paid to the history and symptoms of all the varieties. Dr. Desmarres gives the following—

* Manual, p. 227.

Differential Characters of Lenticular Cataracts.

HARD.	SOFT.	LIQUID.
Opacity advancing from the centre of the lens to the surface. *Spot* gray, green or black as an exception. *Circumference* of the lens always maintaining a little transparency.	*Opacity* advancing from the surface to the centre. *Striæ* white or amber, frequently uniting in the middle of the lens, which they divide into a great many triangles. *Spot* sometimes uniform, milky, or of a caseous appearance. *Circumference* always opaque.	*Opacity* advancing from the surface to the centre, and increasing by successive deposits during the repose of the eye. *Spot* uniform, yellowish-gray, when the eye is in motion. *Circumference* always opaque.
Volume very small. *Shadow* large. *Posterior chamber* very large. *Uvean circle* scarcely visible. *Anterior chamber* normal.	*Volume* very large. *Shadow*, none. *Posterior chamber* destroyed. *Uvean circle* very large, and very perceptible. *Anterior chamber* diminished.	*Volume* very large. *Shadow*, none. Idem.
Vision improved in a moderate light, scarcely ever absolutely abolished.	*Vision* always abolished. *Sensation of the light* very often obtuse.	*Vision* always abolished. *Sensation of the light* obtuse.
Progress very slow and equal.	*Progress* slow, generally very unequal; sometimes very rapid.	*Progress* very slow and equal; rapid only when dissolution is advanced.

It is now generally admitted that a capsular cataract, independent of lenticular cataract, may exist, although it is much more rare than is generally believed.

Differential Characters of Lenticular and Complete Capsular Cataracts.

LENTICULAR.	CAPSULAR.
Opacity proceeding from the centre to the surface of the lens, or inversely, without having been preceded by any inflammation.	*Opacity* extending itself to the surface of the crystalline apparatus, and being always preceded by inflammation.
Spot gray, green, black, white, or amber, frequently permeated by striæ, which all converge towards the middle of the lens, perfectly smooth at its surface, even when these are numerous. In liquid cataracts, the striæ are transverse when the eye is at rest. The lenticular cataract involves by degrees the whole lens	*Spot* always of a dull white, chalk colour, formed of rugose plates united together, without order, and presenting asperities, which project from the surface of the membrane. No regular striæ. The capsular cataract remains stationary and limited if the inflammation subsides.
Volume very large or very small. *Form* always convex.	*Volume* small. *Form* flattened.
Iris, mobile or immobile, without adhesion, sometimes projecting forwards; or, as an exception, oscillating (*cat. liquid*).	*Iris* rarely mobile, frequently adherent and drawn backwards; never oscillating.
Shadow large, or none.	*Shadow* none, when there are adhesions.
Vision abolished completely, or improved in a moderate light. Sensation sometimes obtuse in the day; mostly distinct.	Idem.

41. *Treatment of Cataract.*—This is divided into *medical* and *surgical.* Professor Desmarres agrees with all his predecessors who have treated the matter honestly, that a fully-formed or advanced lenticular cataract is absolutely incurable by *medical treatment.* The question of the practicability of such a cure can only arise in certain varieties of capsular cataract, and in some exceptional cases of traumatic lenticular cataract. In explanation of the cases in which a lenticular

cataract has disappeared spontaneously, and the patient has recovered his sight, Dr. Desmarres refers to the rupture of the capsule in consequence of a blow or violent effort. If the capsule is ruptured by any force, the lens, submitted to the action of the aqueous humour, becomes absorbed. The reported cures have generally been errors in diagnosis. When, however, a *traumatic lenticular cataract* is *incomplete*, it may sometimes be cured by energetic antiphlogistics; and by the same treatment *capsular cataracts* may also be frequently cured. M. Pugliatti, professor of surgery at Messina, announced that he had cured a great many incipient cataracts, and soft cataracts more completely formed, by a treatment, continued for about three months, consisting of the repeated application of liquid ammonia to the temples, and the internal use of iodide of potassium. The ammonia was applied by first blistering the surface, then soaking a pledget of linen several times folded in the liquid, and placing it upon the blistered part, and covering the whole with a convex glass. M. Pugliatti believes that the ammonia penetrates the tissues, and acts directly upon the lens. We need scarcely say that this imbibition through the integuments of the living body remains to be proved; but the author states that the cataract is first reduced to a sort of cloud, and then disappears; that he has cured every species—spontaneous and traumatic, old and recent; but that in many cases the treatment fails.* Dr. Desmarres recites three of this gentleman's cases, but adheres to the conclusion which we have already enunciated.

42. A *congenital cataract* of one eye, the consequence of the persistence of the pupillary membrane of Wachendorf, *cured without an operation*, has been described by M. Paul Bernard. The possibility of this, he remarks, has been denied. The case occurred in a child six weeks old, born with a complete occlusion of the pupil of the left eye. The obstructing membrane was of a slightly grayish-white colour, and of extremely fine texture, resembling a spider's web; it was placed more in advance than the capsule of the lens, and the iris, exposed to the brightest light, was quite immoveable. The two latter circumstances, although of considerable value, are regarded by M. Bernard as insufficient to establish an accurate diagnosis, since a capsular cataract may project from being distended with fluid; and by pressure all round the edge of the pupil, or by adhesions produced by this pressure, the action of the iris may be totally prevented. But on examination with a glass, a very small solution of continuity was observed in the centre of the obstructing membrane, nearly round, and with a black basis. On the sides of this minute aperture vessels were observed, ranged in arches, in every respect resembling those described by M. Cloquet on the pupillary membrane. The cataract was evidently produced by the remains of the membrane of Wachendorf.

Under these circumstances an operation was deemed unnecessary and dangerous. Friction of the eye and temple three times daily with belladonna ointment, and half a grain of calomel night and morning, were prescribed; on the following day nearly a third of the circumference of the pupillary membrane was ruptured, and detached from the iris, the pupil was of a deep black colour, and irregular triangular form. On the next day, the separation was greater, but had not taken place externally; a little was gained daily for five days, when the pupil became manifestly contractile, without any inflammation; the calomel having been substituted by mercurial ointment to the temple. The treatment was continued for about three weeks, at which period the pupillary edge was free for about nineteen twentieths of its circumference; but at its external edge a slight vascular adhesion existed, which retained what was left

* Annali Universali di Medicina.

of the pupillary membrane. By retraction, or absorption, this membrane was reduced to less than a third of its original size; it now floated in the aqueous humour, and did not in the slightest degree interfere with vision, and it would doubtless be ultimately contracted and absorbed, so as to disappear altogether.

M. Bernard recites the anatomical facts relating to the pupillary membrane, which seem to explain this case, and very justly regards it as a "rare, interesting, and fortunate case."*

43. *Surgical Treatment.*—Very copious *general rules*, by which the ophthalmic surgeon is to be guided in advising a patient as to the operation for cataract, are laid down by all the authors before us. In a comprehensive paper by Dr. A Watson, a summary of these rules is given as follows:†

An operation is proper in cases of cataract.—When the patient is blind, either from a complete cataract in both eyes, or in one eye, while the sight of the other is wanting. But there are cases of cataract in which only one eye is affected, and even in it the disease may be only partial, while perfect vision remains with the other; so that it is a question whether or not an operation should be performed.

In the cases of elderly persons, whose occupations do not require much exertion of their sight, and are therefore contented with that of one eye, an operation is scarcely necessary, when only one eye is affected with cataract.

In young persons, however, it is of much importance to possess the vision of both eyes, on account of the greater exertion of them required, and the liability to be deprived of the sight of the other eye by injury or disease, when one eye is affected with cataract. It is, therefore, proper in such cases to restore the sight, where one eye has become blind from cataract, just as we would operate on the left eye of an individual, after having restored the sight of the right. By operating in these cases without delay, the sensibility of the eye has not become impaired by disease. Besides, the deformity which the blind condition of one eye occasions is obviated, which, especially in females, is of very great consequence. But the risk of a collapsed eye, by an unsuccessful extraction, should be avoided. It is improper to operate till the cataract is so far advanced as to deprive the individual of useful vision. Hence, partial or imperfect cataracts, by which the sight is not much impeded, do not require operation.

Both eyes, if affected with cataract, should be operated on at the same time.—The greatest names in surgery are ranged for and against this proposition. Dr. Watson states, if the patient is in a favorable state of health for it, and if the operations are to be performed with the needle, by adopting this course, the patient is subjected to only one period of anxiety and confinement, which are circumstances of importance to all, but more especially to those who are delicate, or much advanced in life. If, however, the patient does not seem, from his constitution, to be in a very favorable state for an operation—if the weakening effects of after-treatment upon a feeble frame be dreaded—or if the operation to be performed is that of extraction, only one eye should be operated on at first, and the other some time afterwards. This mode of procedure subjects the patient to less risk, and we obtain the benefit of the experience afforded by the progress of his case to guide us in the treatment of the second operation. Moreover, the treatment to which the patient is subjected, after the first operation, generally forms a very excellent preparation for

* Gazette Médicale, 10 Oct., 1846, p. 798.

† Edin. Med. and Surg. Journal, April 1846. Historical and Critical Remarks on the Operations for the Cure of Cataract, by Alexander Watson, M.D., F.R.S.C.E.

the second, as we almost invariably see much less inflammation follow a second operation, either on the same eye or on the other, than occurred after the first. Dr. Desmarres maintains strongly that when the double cataract is complete, we should, in general, operate upon both eyes on the same day.*

The age of the patient should influence the surgeon in operations for cataract.—This disease affects patients of all ages—infancy, youth, manhood, and old age.

In cases of congenital cataract, the importance of early operation is now completely established. It should be done after the infant is three months old, and before the period of dentition; but if delayed till dentition has commenced, an interval should be selected for the purpose after the appearance of some of the teeth. Dr. Desmarres says at twelve, fifteen, or eighteen months old.

In infancy and youth, operations for cataract generally produce less inflammation, and are more successful than in more advanced life. They should, therefore, never be delayed on account of the youth of the patient.

In manhood and more advanced life, inflammation is more apt to follow operations for cataract than either in infancy, youth, or old age; and hence greater precaution is necessary in the preparation of the patient, and more activity in the after-treatment. Banister mentions his having couched successfully the cataract of a lady aged 83 years, after having been blind of that eye 43 years; in another person of 98 years, the eye having been 18 years blind.

Pellier, in 1779, operated on a gentleman aged 84 years, who recovered his sight in 20 days. The operation was accomplished in 17 seconds.

Mr. Lawrence states, that he operated by extraction on a late member of the professsion, aged 92, with the most perfect success.

Dr. Watson lately operated successfully on a lady, aged 86. She was not confined to bed after the operation, and no inflammation was produced by it.

This question must be decided not altogether by the amount of years which the patient may have seen; but also partly by the vigour and health he may enjoy, for these do not always depend on age. Although very advanced age does not forbid an operation, it should be a reason for selecting that which is most simple, and least likely to affect the general health by confinement and after treatment.

As to the operation which is to be preferred in cases of cataract.—Our more complete knowledge of this subject has now established the principle, that no surgeon can treat this disease properly who confines himself to the performance of one operation; but as the differences in the nature of the disease and circumstances of the patient require different modes of operating, so the surgeon must select that operation which is best suited to the individual case under his care. The data upon which a choice is to be made, consist of these—the nature of the cataract, and the condition of the patient.

1st. *Fluid and soft cataracts* form the cases of most easy and successful operation, by solution performed with the needle. They occur generally in young subjects; and they neither require, nor properly admit of, any other mode of operating.

2d. *Firm and solid cataracts* generally occur in persons of middle or more advanced age; and they form the only class of cases in which any question occurs as to the proper and best mode of operation. They admit of being removed either by extraction from, or by displacement within, the eye; so this brings us to the question as to the merits of, and objections to, these operations.

* Liber citatus, p. 554.

Although in all the cases of this class the operation of displacement might be successfully performed, in many of them that of extraction is inadmissible. The number of cases, therefore, in which extraction might be performed, is brought within narrow limits. They consist of patients affected with solid cataracts, uncomplicated with any other disease of the eye,—the patient having at the same time a good constitution, a calm mind, not irritable and restless, and his eye well formed, of proper size, and neither too prominent nor too much sunk in the orbit. To these must be added, that the patient should be favorably situated for quietness, care, and attentive nursing.

Another circumstance to be considered and kept in view in deciding upon which operation is best, regards the operator. In a case equally suitable for either extraction or depression, a decision as to the one most desirable will depend very much on who is to be the operator. Does he devote particular attention to these operations, and has he performed them equally well and successfully? If he does, certainly extraction is the most perfect operation; but if not, the depression is the safest.

A great proportion of the cases of solid and hard cataract, now under consideration, admits only of operation by displacement.

Although all cases of solid hard cataract may be cured by displacement by the needle, a great many of the cases admit of this mode of operating solely. Hence an operator might dispense with the operation of extraction, but not with that of displacement. The cases in which the cataract must of necessity be removed with the needle, are those in which the patient has an unsound or delicate constitution, has any unusually inflammatory diathesis, or is very far advanced in life,—having the eye small, unusually prominent or sunk in the head, or the cataract complicated with other diseases of the eye, as partial opacity of the cornea, adhesions of the iris, contraction of the pupil, or disorganized state of the vitreous humour.

3d. *Capsular cataracts*, whether primary or secondary, admit only of removal with the needle.

The season of the year is of importance in operations for cataract.—In Europe it has been generally remarked that spring and autumn are preferable seasons of the year for the performance of operations for cataract. So far as Dr. Watson's experience testifies, he cannot say that he has seen cause for attaching much importance to this circumstance, and, with one exception, Dr. Desmarres make the same remark. Dr. Watson has seen and performed many operations for cataract at all seasons, both successfully and unsuccessfully, and he does not recollect to have attributed any of these events to the season of the year. At the same time, he has no doubt that in other countries, where the colds of winter are more intense, and the heat of summer is greater than in this, or where the inhabitants at these seasons are subject to endemic diseases, the recovery from such operations may be so much influenced, that it is safe and proper to avoid their performance at those times. Dr. Desmarres considers the operation should not be performed during excessive heat.*

The preparation and after-treatment necessary in cases of operation for cataract are not of less importance than the proper performance of the operation. Indeed, without great attention, both to the previous preparation of the patient and his after-treatment, the most perfect operations for cataract may prove unsuccessful. Much more of the success of these operations depends on them than is commonly imagined. They consist in attention to many minute particulars, which individually do not seem to be of much consequence; and hence their importance is often underrated. But when taken together, they constitute a form of treatment which has a powerful effect upon the system, and is in most cases indispensable to a favorable result.

* Lib. cit. p. 554.

1st. In order to prepare a patient for undergoing an operation for cataract with success, the functions of the body, including the circulation, digestion, and nervous system, should be tranquillized as much as possible by moderate diet, rest of body and mind, and such medicines as may be required to restore and promote healthy functions. After such a preparation as this, Dr. Watson has performed each of the different operations successfully, without their being followed by the slightest pain or inflammation of the eye. But without some preparation of this kind he has seldom seen the recovery from operations prove satisfactory.

2d. Neither can too much attention be paid to the after-treatment. By any of the operations for cataract, the eye is more or less injured; inflammation follows, and if severe, or not speedily checked, this soon proves destructive to so delicate an organ as the eye.

Prevention is always better than attempting to cure inflammation after it has taken place. Hence the importance of previous preparation, and such after-treatment as may prevent the occurrence of inflammation. It is generally too late to apply remedies, after inflammation has come on, to preserve the eye and restore the sight. After operations with the needle, it is seldom that bloodletting is necessary to prevent inflammation. But after extraction, by which more injury is inflicted on the eye, this is in general a proper precaution. In elderly persons an opiate is advisable, as vomiting and other symptoms of collapse are apt to follow, which this may obviate. Rest, in a perfectly darkened room, and the constant application of cloths dipped in acid water, low diet, perfect quietness, and attention to the state of the bowels, form the proper and necessary after-treatment. This treatment requires to be continued for two or three days after operations with the needle, and for eight or ten days after extraction.

If inflammation of the eye supervenes, general and local bloodletting, nauseating doses of tartrate of antimony or ipecacuanha, with purgative and sudorific medicines, should be administered with vigour, attention, and care.

Mr. Guthrie's work* appears to have for its objects to describe—1, the diagnostic marks of the various forms of cataract; 2, the appropriate operative procedure for the remedy of each form. So much has been written on the subject of cataract, and most of the circumstances relating to it have been so accurately detailed, that we are by no means surprised to find the author availing himself, in his leading principles, of the recorded experience of the ophthalmic surgeons who have preceded him, including the published opinions of Mr. Guthrie, his father. Nevertheless, the operator will find much in the detail to repay him for perusal, for the work unquestionably embraces a truthful account of the *niceties* of the various operations† as well as a judicious adaptation of each to the particular species which presents itself.

Mr. Guthrie attaches much importance to the appearance and motions of the iris, both as to the nature and treatment of cataract. The contraction and dilatation of the pupil depend on the healthy susceptibility to light of the iris, rather than of the retina; and a due sensibility of the iris generally implies a corresponding state of the retina. There may, however, be an immobile iris dependent on the form and state of the lens and its capsule; it may remain fixed and dilated, or fixed and contracted, in consequence of adhesions formed between it and the capsule; or it may be fixed and dilated, in consequence of pressure from the lens protruded by the parts behind. When this is the case, it may be suspected from a diminution of the posterior

* On Cataract and its Appropriate Treatment, by the Opération adapted to each peculiar Case, 1845.

† Ibid., pp. 67, 73, 76, *et passim*.

chamber of the aqueous humour, from an irregular appearance of the edge of the iris and of the capsule, and may be proved by dilating the pupil with belladonna. When, on the contrary, the iris is immobile from diminished susceptibility, the posterior chamber is preserved. Where the space of the posterior chamber is entire, especially when combined with a total inability to distinguish light from darkness, it nearly amounts to a prohibition of the operation, which ought on no account to be performed if accompanied with pain and other signs indicating approaching disorganization.*

Professor Desmarres' opinion as to the choice of the operation for cataract may be thus summed up. He prefers, decidedly, extraction as the general method; but admits that it cannot be resorted to indiscriminately. It is necessary to determine, before all things, the nature of the cataract, and the complications which exist; want of this discrimination, upon which to found the choice of an operation, has been a frequent cause of failure.

In ordinary hard lenticular cataract, in aged subjects, depression has succeeded best in this surgeon's hands; the wound of the cornea after extraction in these subjects healing with difficulty, and the eye becoming compromised; but when the cataract is *osseous* or *stony*, exciting inflammation by its presence, and complicated with amaurosis, it should always be extracted. *Soft lenticular cataract* requires breaking up or dilaceration of the capsule; the lens, in this case, disappears by degrees, the eye not being compromised for one instant. The *semi-soft* lenticular cataract, including the *striated*, etiolated, barred, dehiscent, three-branched varieties, &c. are liable, after depression, to increase in volume, and to excite inflammation, frequently of great severity; or to reascend to the pupil, constituting secondary lenticular cataract; extraction is the proceeding most applicable to these cases, as also to cases of disseminated cataract. In *congenital* and *traumatic* cataracts, not very large, with an uniform degree of softening, as much advanced at the centre as at the surface, the operation of breaking up should be preferred to extraction. *Liquid lenticular cataract* may be as well extracted as operated upon by the needle; but Professor Desmarres prefers the latter method, since it is unattended with danger, and is almost always successful; scleroticonyxisis is generally preferred to keratonyxis. *Capsulo-lenticular cataracts* are almost always complicated with adhesions between the iris and capsule, so that in many cases depression and extraction present, equally, dangers and difficulties. If the eye be well formed, the false membranes few,—if the inflammation has been some time extinguished, depression and extraction are both possible. For either operation the eye must be prepared with belladonna; if depression be chosen, the needle is introduced by the sclerotica, the iris and capsule separated, and the lens with its opaque capsule depressed. But, besides that, sometimes the adhesion cannot be divided, and the pressure on the lens will frequently, if carried too far, dislocate the iris from its normal attachment; the consecutive inflammation is to be dreaded, since the depressed lens in an eye, otherwise abnormal, almost always induces serious accidents. If extraction be preferred, great difficulties may be expected in its execution, requiring much address and patience, and unless the adhesions are very slight, considerable reaction must be expected. If the cataract is entirely adherent to the iris, neither of these operations are possible, and dilaceration of the capsule, through the cornea or sclerotica, is indicated. If it be not at all, or only slightly adherent, the same rules are applicable as in uncomplicated lenticular cataract.

Capsular cataracts.—When the capsule is inflamed and has become opaque to such an extent as that the pupil has lost its clearness, the affection

* On Cataract, p. 15.

should be considered in a surgical point of view as a capsulo-lenticular cataract. It signifies little whether the lens is transparent or opaque, when the capsule is so opaque as to prevent the transmission of the rays of light. In all cataracts it is necessary to destroy both the lens and capsule, so that the diagnosis between simple lenticular cataract and capsulo-lenticular cataract is of less importance; but in the latter, the operation is always more difficult, in consequence of adhesions, and the result less certain, for the double reason, that inflammation which has rendered the capsule opaque may retard and compromise the operation; and the operation, infinitely more difficult, may occasion some new lesions. For all capsulo-lenticular cataracts in which the lens still exists, Dr. Desmarres refers to what he has said on the choice of the proceedings in capsulo-lenticular cataract. When the lens has been destroyed by any accident or by an operation, the cataract may be regarded as formed by one of the sides, or by the two sides of the membrane, united by traumatic inflammation after the absorption of the lens. The *arid siliquose variety* is of this nature. In this, if there are not old and stony adhesions to the iris, depression should be preferred, although extraction by the sclerotica may be equally available. But if it is thought that these adhesions cannot be easily broken up, extraction by the cornea should be preferred, or even extraction by the sclerotica,—operations in which, if we do not wholly extract the false membrane, we may at least separate the greater part. We may still make a choice between the two latter operations; if the capsular opacity is very thick, very adherent to the iris, especially on its internal side, we are very guarded as to sclerotic extraction, since the false membrane may not be separated from the iris, and extracted, without producing dislocation of this diaphragm. If, in such a case, on the contrary, the cornea is opened at its inferior edge, the puncture being nearer the point of adhesion than in operating through the sclerotica, a large portion of the opacity may be withdrawn and excised, and the pupil re-established, without fear of rupturing by too violent traction the natural attachments of the diaphragm. If the opacity is more strongly adherent upon the external side, it would be possible, but not preferable, to operate by the sclerotica; the false membrane, by the position which it occupies, being then sufficiently close to the point of puncture, that it may in great part be excised if the adhesion cannot be broken by the simple traction of the forceps.

If capsular cataract occurs as a consequence of an operation for lenticular cataract, care must be taken, whatever the process determined upon, not to wait too long, so that the adhesions between the capsule and iris may not become too strong, a circumstance which may prevent the surgeon extracting or depressing the false membrane, and at all events would embarrass the operation. In the rare case, where the capsular cataract floats free before the pupil, it is sufficient to open the cornea, as in the operation of artificial pupil, when the false membrane is easily extracted with the forceps.

Professor Desmarres remarks, more generally, depression should not be resorted to if the patient has suffered for a long time from congestive amblyopia, since the lens remaining in the eye may prove a new cause of the affection of the retina; nor should it be chosen if there are any traces of the effects of old internal ophthalmia, as dislocation of the iris, numerous posterior synechias or incipient staphyloma of the sclerotica. Extraction should also be preferred if the patient is liable to ocular neuralgia, especially if associated with any affection of the choroid, ciliary body, &c. On the other hand, extraction by the cornea should be rejected if any of the following conditions exist:—1st, the eye being too small; 2d, the eye being too projecting; 3d, softening of the vitreous humour; 4th, the anterior chamber destroyed; 5th, cataract,

complicated with partial anterior synechia; 6th, granular eyelids and diseases of the lachrymal sac; 7th, a morbid condition of the general health, or complications which prevent the patient remaining at rest.

The various modifications of the operation for removal of the lens without extraction are thus enumerated:—1st, the lens is plunged into the inferior part of the globe by depressing it directly from above downwards (*direct depression, or couching*), or by forcing it downwards, and at the same time turning it backwards (*reclination*); 2d, the lens is broken up into as many parts as its density will allow of (breaking up); 3d, the lens is subjected to the action of the aqueous humours by depriving it of its capsule (dilaceration of the capsule). These operations are performed by *scleroticonyxis*, the globe of the eye being penetrated through the sclerotica, or by *keratonyxis*, through the cornea.

The whole of these processes are most minutely described by Dr. Desmarres, and beautifully illustrated with engravings, and a complete account is given of the accidents which are liable to occur during and after the various operations, and of the various modifications which have been proposed.

44. *Statistics of Operations for Cataract.*—Dr. Edward Jäger, son of the celebrated ophthalmologist, has given the following statistics of his father's operations for cataract, performed at the Josephine Academy, in Vienna.

From 1827 to 1844, Professor Jäger operated on 1011 cataracts, of which 764 were lenticular, 207 capsulo-lenticular, and 40 capsular. The kinds of operation to which he had recourse were as follows:—

Extraction by the superior section in	728
„ by the inferior section	9
Partial extraction	58
Depression	129
Breaking down the lens	87
	1011

Of the above number, 63 lost their sight; and it will be seen by the subjoined table what were the processes employed that gave the worst results:—

Of the	58	operated	by partial extraction	3
„	737	„	by extraction	33
„	87	„	by breaking down the lens	6
„	129	„	by depression	21
				63

It follows, from this statement, that extraction has been the most successful; as the proportion of those who lose their sight to the number in whom the operation succeeded, is 4½ per cent. in extraction; 16 per cent. in depression; and 8 per cent. in breaking down the lens, or absorption. In order, however, to derive full satisfaction from these statistical returns, we ought to have been apprised of the considerations that influenced Professor Jäger to have recourse to one operation in preference to another.*

45. *Extraction of Cataract by Suction.*—M. Blanchet presented to the Academy of Medicine a patient who had been affected with soft cataract for fifteen months, and on whom he had operated by this method with complete success. The pupil having been previously dilated by belladonna, he made a puncture in the cornea at the limit of this dilatation, in order that the slight mark which

* Bulletin Méd. Sciences, from Ueber die Behandlung des granar Staares, Vienna, 1845.

would result from the wound should not remain over the pupil. He then introduced through the incision in the cornea, as far as the crystalline lens, a tube resembling an anal syringe, but differing from it in having a greater diameter, and in its extremity being drawn out like the mouthpiece of a flute; he then aspired through the instrument.

If, after having tried the suction, he found the capsule of the lens opaque, he then proceeded as usual.

The patient had been operated upon ten days, the pupil was perfect, vision completely established, and no accident occurred as a result of the operation.* M. Blanchet has employed this method, since June 1846, on other patients, with variable success; he has also resorted to it in certain purulent and sanguineous effusions into the eye.

46. *A New Cutting-needle for the Operation of Cataract by Extraction.*—This is described by M. Mayne; it is contrived for the purpose of—1st, making the section of the cornea and of the capsule at the same time; 2d, to avoid the difficult movement of bringing the knife out of the cornea; 3d, the point is so contrived that the iris would be wounded with difficulty; 4th, the wound is large enough to admit the passage of the lens, but not so large as to allow the humours to pass, and cicatrization is much quicker; 5th, the operation is as easy as that by depression. A plate of the instrument is given, and M. Mayne complains that his instrument has been misunderstood by description without such an accompaniment.†

§ XIV.—*Diseases of the Choroid.*

These are numerous:—1st, Choroiditis in its three forms; 2d, *Staphyloma;* 3d, *Dropsy;* 4th, *Hypertrophy;* 5th, *Atrophy;* 6th, *Ossification;* 7th, *Specks;* 8th, *Melanosis;* 9th, *Fungous;* 10th, *Traumatic Hernia;* 11th, *Wounds.*

47. *Choroiditis.*—This inflammation is never isolated; owing to its direct vascular communication with the other membranes, and in particular with the retina, iris, sclerotica and conjunctiva it cannot be independent. Notwithstanding this, Dr. Desmarres devotes ten pages to its consideration. It may appear, at first sight, difficult to recognise inflammation thus located, yet, by attentive observation, pathological phenomena which occur simultaneously in the other membranes, may give the most positive degree of certainty as to its existence, and enable us to determine the part of the membrane in which the inflammation is most severe, and to prevent its consequences.

§ XV.—*Diseases of the Ciliary Body.*

To treat of diseases of the ciliary body separately after those of the choroid membrane although a *cyclitis*, or inflammation of that body, *hernia*, *complicated staphylomata* (cirsophthalmia), *wounds*, and other affections, might be described, according to the views of Professor Desmarres, would be a useless repetition.‡

§ XVI.—*Diseases of the Retina.*

These are very numerous, and are divided into three classes—I. Inflammations, including *acute retinitis* and *chronic retinitis*, the latter subdivided into *congestion of the retina*, and chronic retinitis, properly so called. II. Neu-

* Gaz. Méd., Juillet 1847. † Gaz. Méd. de Paris, 6 Mars, 1847, p. 188.
‡ Lib. cit. p. 684.

roses, including *hemeralopia*, *nyctalopia*, and *hemiopia*. III. Affections not comprised in the preceding classes, including *apoplexy of the retina*, *encephaloid*, *dropsy*, *ossification*, and *amaurosis*. Cases of *paralysis of the retina* are included in the general description of the last-mentioned affection.

48. In *Hemeralopia*, (night-blindness), as it occurs in warm climates, the first thing to be done, according to Dr. Guepratte, is to withdraw the affected organs from the influence of the light, and for this purpose he prefers to all others the bandage which is used after the operation for cataract. At the commencement it alone may suffice, and in a few days produce a cure. In more serious cases, whether or not there is derangement of the primæ viæ, he prescribes slight purgatives, as marsh mallows, sulphate of soda or magnesia, castor oil, and emetised whey. In strong plethoric subjects, of a high complexion, and with heat of the head, he preceded these means by a bloodletting from the arm or from the foot. He has rarely had occasion to have recourse to these energetic means when he had to deal with patients who were otherwise healthy. In from five to twelve days the majority were cured; it was only after this latter period that he considered it necessary to apply a counter-irritant, as a blister to the nape of the neck.*

Dr. Desmarres admits that the causes of this affection are but little known, but considers that the retina is eventually involved; he gives a very interesting case from his own practice. M. Cunier has recorded an instance of a family of Hemeralopes, in whom it has existed for two centuries.† It is sometimes endemic, but most frequently epidemic. Mr. Jones has also seen a case of congenital night-blindness.

49. *Nyctalopia* (day-blindness).—Dr. Desmarres regards this as a disease of the same nature as night-blindness. It is totally distinct from the photophobia of the scrofulous, or that to which persons accustomed to dark residences, and albinoes are subject, and is a very rare disease. Mr. Jones affirms that in this sense it does not certainly appear that there is any such disease.

§ XVI.—*Varia.*

50. *Sympathies of the Iris.*—Mr. Guthrie‡ has seen many instances in which the sympathy of the iris with the iris of the opposite eye existed, its sympathy with the retina, and accordingly the sensibility of the iris to light, being destroyed. When the sound eye is covered, the pupil of the diseased one, as under ordinary circumstances, dilates to a moderate extent, remaining in that state, and immoveable, under the full glare of the sun; but on uncovering the sound eye, exposing it to the same degree of light, both pupils are eventually contracted.

In a sound eye, no deviation of the iris from a perfect plane is observable; but it sometimes happens, and the case of Captain Kater, F.R.S., is given as an example, that the iris is tremulous, without any defect of vision. This circumstance is attributed by the author to a thinner state than natural of the vitreous humour, by which the balance of support before and behind the iris is disturbed. In an unsound eye this is usually accompanied by a capsular cataract, within which the lens has become soft, or has been absorbed—a state which forbids extraction. Hence, in cases of cataract, moderate pressure should be made on the eyeball with the finger, when, if the vitreous humour is thin and watery, the eye will yield more than it ought to do, and the iris will acknowledge the pressure.

* Gaz. Méd. de Montpellier, and Monthly Jour. of Medical Sciences, Sept. 1, 1847.
† Jones's Manual, p. 356. ‡ On Cataract, p. 17.

51. *Hemorrhage after Extraction of the Lens.*—Mr. Soden, of Bath, mentioned to Mr. Guthrie two cases in which hemorrhage from the interior of the eye came on the second day after extraction of the lens; it was considered that the vessels of the choroid coat were in a varicose state, which might perhaps have been discovered, and the operation prevented. Mr. Guthrie subsequently saw a case which augured most favorably, both from the appearance of the eye and the success of the operation, yet hemorrhage supervened on the second morning, and did not cease until the eye was lost.*

52. *Blindness from the Use of Sulphate of Quinine.*†—The fact that sulphate of quinine, in large doses, will sometimes occasion blindness, has received additional illustration by the publication of several cases by Dr. John M'Lean. The "heroic" treatment pursued by the Americans in this instance, as in some others, is calculated to afford the profession important information. In one case, about sixteen grains of the medicine were administered hourly for a low remittent fever, until nearly an ounce had been taken. In another case, three grains were given hourly for three days. In another, three drachms were taken in thirty-six hours, in six-grain doses. In these and other cases perfect blindness was the result, the amendment from which was very slow indeed; in one instance, there was a gradual improvement during the first year; in another, the sight was partially restored after some weeks, but continued imperfect. "During the greater part of the first year the patient could look steadily at the sun without seeing it, or even any painful sensation being produced. When he first began to see sufficiently to read, which was in the course of the first year, he could perceive but a small luminous spot upon the paper, about one inch in diameter, within which he could distinguish letters, but all without this was cloudiness and confusion. During this time the pupils were very much dilated, and he could see objects at a distance much better than those near by. His sight has continued to improve ever since; and at the present time, although quite imperfect, is sufficiently good to enable him to read and write, although with some difficulty. The pupils are still considerably dilated, and it is with great difficulty that he can discern objects by twilight. The direct rays of the sun upon the head produce pain there, accompanied with a painful sensation deep in the orbit of the eye, and a disordered vision. At the present time exercise easily produces fatigue, by which his sight is much impaired."

Trousseau also relates a case in which, after a dose of 48 grains of sulphate of quinine, the patient became temporarily blind and deaf.

53. *Effect of Bleeding on the Sight.*‡—Many authors believe that very copious bleedings injure the sight. M. Duval lays down the following rules in reference to bleeding in ophthalmic affections: bleed largely when the integrity of the organ is threatened by violent inflammation; bleed largely again when an amaurosis is connected with a violent congestion, which threatens to produce such disorder in the texture of the parts as will be impossible to be overcome afterwards—in amaurosis occurring violently and suddenly, for example. In amblyopia proceeding slowly, insidiously, which almost always happens, avoid spoliative bleedings; abstract blood with reserve.

Bleedings are, again, useful to prevent or counteract the inflammatory accidents which frequently result from operations on the eye. The depression of the cataract imperiously requires them, since a foreign body is left at the bottom of the eye, which invariably induces a flow of blood thereto. Extraction requires it less frequently. Rosas does not bleed at all after the extraction of the lens,

* Guthrie on Cataract, p. 85. † Illinois and Indiana Med. and Surg. Journ., Dec. 1846.
‡ Gaz. Méd., May 15, 1847.

for fear of interrupting the adhesive process destined to close the wound in the cornea.

54. *Anæsthesia in Ophthalmic Affections.*—In cases of very violent ophthalmia in children at the Hôpital des Enfans Malades, M. Guersant employed a collyrium composed of one part of nitrate of silver, and four parts water; but its application was attended with the most violent pain, and the children would cry so violently, that its use must have been abandoned if its advantages had not been so manifest. M. Guersant has submitted several of these young subjects to the influence of ether, by inhalation, under which they have been subjected to the cauterization, without the least murmur. Mr. Lawrence has extolled the effects of ether in a case in which the eye was extirpated for cancer. M. Velpeau extirpated the eye, the patient being under the influence of the same agent.

55. *The Surumpe, a peculiar Disease of the Eyes.**—A scourge of the traveller in the Cordilleras is the disease called the *surumpe.* It is a violent inflammation of the eyes, caused by the sudden reflection of the bright rays of the sun on the snow. By the rarefied air and the cutting wind, the eyes, being kept in a constant state of irritation, are thereby rendered very susceptible to the effects of glaring light. In these regions the sky is often, for a time, completely overshadowed by snow-clouds, and the greenish-yellow of the plain is soon covered with a sheet of snow. Then suddenly the sun's rays burst through the breaking clouds, and the eyes, unprepared for the dazzling glare, are almost blinded. A sharp burning pain is immediately felt, and it speedily increases to an intolerable degree. The eyes become violently inflamed, and the lids swell and bleed. The pain of the surumpe is the most intense that can be imagined, and frequently brings on delirium. The sensation resembles that which it may be imagined would be felt if cayenne pepper or gunpowder were rubbed into the eyes. Chronic inflammation, swelling of the eyelids, dimness of sight, and even total blindness, are the frequent consequences of the surumpe. In the Cordilleras, Indians are often seen sitting by the roadside, shrieking in agony, and unable to proceed on their way. They are more liable to the disease than the Creoles, who, when travelling in the mountains, protect their eyes by green spectacles and veils.

Although a deviation from the arrangement adopted, we have thought it better to place the following interesting cases of *paralysis* before our readers at once, than to defer them to the next Report.

56. *Paralysis of the Nerves of the Eye*—Schur† has published a case of *complete immobility of both pupils, in which a loss of power in the third pair accompanied the loss of sensibility in the optic nerves;* and the recovery of the function of the third pair was followed, after a time, by the restoration, in part, of the mobility of the pupils. The motion of the pupil, it is well known, depends upon some other condition besides the stimulus of light upon the retina; and in amaurosis, with complete immobility of the iris, it would follow from this case, that the motor nerves of the iris have suffered a loss of direct power, as well as of that which they exert when light falls upon the retina. In cases of amaurosis, it appears to be most important to distinguish between the direct motions of the pupil from the action of light, and the motions of the iris independent of light, which vary much, according to the excitability of the temperament of the individual.

* The Edinburgh Medical and Surgical Journal, April 1848.

† Archiv für Physiologische Heilkunde, 1847, H. i, p. 37 and 38, and Monthly Journal, July 1847.

57. *A Case of Amaurosis of the Right Eye from a slight wound of the corresponding Eyebrow*, is related by Drs. Michelacci and Fedi.* The reporters observe that it is still a matter of controversy whether a simple traumatic lesion of a branch of the fifth pair can induce amaurosis. Muller seems disposed to attribute its production to commotion of the retina or the optic nerve, although there certainly exist examples of amaurosis following severe lesions of the forehead, without any such concussion having taken place.

Malgaigne, too, trusting to a false maxim that the lesion of a nerve may paralyse its terminal branches, but cannot operate in a reverse manner towards the trunk, is likewise intent upon proving the ease with which the peculiarity of the structure of the orbit allows of the production of commotion of the optic nerve. Lawrence doubts whether amaurosis ever results from injury of the frontal nerve.

The example we here adduce is not explicable, at all events, upon the above supposition. The patient became amaurotic immediately after receiving a small wound from a shot over the right eyebrow. Three questions were proposed by the legal authorities for the consideration of the reporters: 1st, whether blindness really existed? 2d, can it be referred to the infliction of this small wound? 3d, what hope is there for a cure? For a reply to the first of these, the state of the patient's eyes was diligently examined, and they were found to be quite natural in appearance, as also in the action of their pupils, as long as both eyes were kept open; but when the left eye was closed, the right pupil was found to be quite disobedient to any stimulus whatever. The experiments are said to prove the perfect blindness of the right eye, depending upon a complete paralysis of the sensorial nerve. The movements of the iris of the blind eye, which took place whenever the light was allowed to exercise its influence upon both eyes together, or only on the left one, did not at all depend upon the sensitiveness of the right retina, but were exerted solely by virtue of the nervous action excited by the light in the left eye, and by its sensorial nerve reflected through the medium of the brain upon the motor nerves of the right iris. These results agree with other cases of amaurosis confined to a single eye, and find their explanation in the doctrine of the reflex nervous action, as taught by Marshall Hall and Müller.

A very small cicatrix was observed over the orbital ridge, just at the point where the frontal nerve emerges from its foramen; and the blindness having immediately supervened upon the infliction of the wound which produced this, the second question was answered in the affirmative.

The prognosis was unfavorable; for seeing the rapidity with which the blindness was induced, the completely amaurotic condition of the visual apparatus, and the long period which had elapsed (thirty-four days) without any improvement having resulted, and recollecting Scarpa's opinion upon the rarity of cure in these cases, it was to be feared that the loss of the sight of the eye would prove permanent.—*Annali Universali*, vol. cxvi, pp. 21, 22.

The reviewer remarks that, agreeing with the reporters that cases enough are on record to allow of the admission of the production of amaurosis by injury to the frontal nerve, without concomitant *concussion of the retina*, it cannot be allowed that their own case, one of gunshot wound of the forehead, although a slight one, can be considered as an unexceptionable example of this; and Mr. Jones† states that it can scarcely be admitted as regards amaurosis immediately following an injury—that it is directly connected with the injury rather than with concussion.

The following cases and observations will, however, more fully illustrate this subject.

* Medico-Chirurgical Review, Oct. 1846, p. 544. † Lib. cit. p. 509.

58. *Paralysis of the Third Pair of Nerves consecutive to Neuralgia of the Fifth Pair.*—M. Marchal (de Calvi), in an interesting memoir in the 'Archives Générales,' points out a relationship which exists between paralysis of the third pair with neuralgia of the fifth, that has not been suspected. Trifacial neuralgia, he observes, has been little studied as regards the disorders which it produces beyond the nerve it affects, but which form a very interesting and curious part of its history. It is remarkable that a lesion, limited to a few filaments of the fifth, can, by a retrograde repetition of morbid actions, propagate itself to the nervous centres, and induce the most extensive, multiplied, and serious accidents, such as the loss of speech or power of deglutition, excessive dyspnœa, paraplegia, violent convulsions, emprosthotonos, furious delirium. This is detailed in a case by Pouteau, which M. Marchal published with several others in a paper upon *Traumatic Prosopalgia*, in the 55th volume of the 'Memoirs of Military Medicine.' And in these cases so certainly was it the simple lesion of some of the trifacial filaments that induced so fearful an assemblage of symptoms, that when they were divided, by a section extending to the base, *the symptom which had so long resisted all medical appliances disappeared in half an hour, never to return.* Two phenomena, or two orders of phenomena, are sometimes so disproportioned, that the idea of their connexion never at first presents itself to the mind; for who could have thought such grave disturbances of sensibility and motion were dependent upon an old contusion of a few nervous filaments? Several facts, and a careful examination of all their circumstances, were required before this connexion could be perceived. These cases of prosopalgia, with *general* lesion of sensibility and motility led M. Marchal to recognise the *special* relation which exists between the paralysis of the common oculo-motor nerve and neuralgia of the trifacial, in the following cases.

Case I. A soldier, æt. 47, of a very nervous temperament, was the subject of paroxysmal pains of dreadful violence on the *left* side of the head and face, especially in the vicinity of the supra-orbital foramen, mastoid process, and in the teeth of the upper jaw. The left eye became affected with diplopia, but presented no deviation from its normal direction. The sensibility of the left cheek was entirely gone, as also of the nostril, although he could still perceive odours. He could open his jaws only to a very slight extent. M. Marchal tried the experiment of compressing the frontal nerve as it passed out of its foramen. This caused great pain, but *immediately, and so long as it was continued, the diplopia ceased.* The experiment was frequently repeated, with the same results. The pressure, however, could not be employed as a remedial means in consequence of the great pain it gave rise to; but the patient obtained considerable ease during the paroxysms from inducing compression of the dental nerves, by introducing a small piece of wood between two of his teeth. Seven blisters were successively applied over the supra-orbital region, in the space of twenty days, purgatives and stimulating pediluvia being simultaneously resorted to. The pain was relieved, and the sensibility restored; but the diplopia remained, and the globe of the eye became smaller, and drawn inwards, the upper eyelid being also paralysed, so that the eye was kept shut. But now analogous pains and diplopia were observed on the right side, so that this latter could no longer, as heretofore, be obviated by closing one eye. Blisters were applied on this side, and the pain relieved; but the diplopia of either eye continued, and the patient's vision became sensibly enfeebled. Time and the use of Meglin's pills, or probably the first alone, gradually restored his vision; and, one evening, after drinking to excess, the diplopia also suddenly left him. The patient, however, eventually became the subject of various other nervous affections, which entirely destroyed his health.

Case II. A young woman, æt. 26, and otherwise in perfect health, had suf-

fered for two years most violent pains in the left side of the head, radiating towards the ear, eye, and cheek. They were accompanied by tinnitus auris, and red flashes before the eye. Eight days before visiting her, the eyelid could not be raised, and the globe of the eye was simultaneously drawn outwards. The pupil was dilated. A sharp pain was felt opposite the supra-orbital foramen, and increased when she laid on that side. Following her occupation as a shoebinder, she had, many years since, been accustomed to press the left side of her head against an article of furniture. This gave rise to a tumour here, which suppurated, and the resulting sore was obstinate in healing. On touching the cicatrix which this left, a sudden and violent frontal pain was felt. Blisters were applied over the cicatrix, and galvanism employed in the course of the third pair, but all without success.

CASE III. A pensioned soldier, after having been exposed to damp, had suffered horrible paroxysmal pains at the root of the nose, and near the supra-orbital foramen. After a certain time these ceased, and were followed by the complete descent of the eyelid, the globe of the eye being also drawn outwards and the pupil dilated.

CASE IV. Louise Heberard, æt. 33, had enjoyed good health until she worked as a dressmaker in a cold, damp apartment. In June, 1844, she was seized with toothache on the left side, and then with pains along the left eyebrow, and eventually opposite the supra-orbital foramen. Severe pains were also felt at the root of the nose, and near the angle of the jaw. The left eye became drawn inwards, and she saw double. In May, 1845, the upper eyelid fell, and the eye which had been drawn inwards now became drawn outwards. Tactile sensibility of the left side of the face and head was abolished. The sense of smell was gone, on the left side, as also that of taste at the anterior part of the tongue. During mastication, the patient often bit the left side of her tongue, and she articulated so imperfectly as to be understood with difficulty. She was much troubled with confusion of the head, and could not guide herself unless the left eye was closed, on account of her double and confused vision. No means that were tried gave her more than partial relief.

CASE V.—A man, in M. Gendrin's ward, while employed on a railway, had received a blow on the forehead, which induced violent pains radiating towards the surrounding parts. Upon his admission, long after the accident, pressure upon this point still caused some pain; and several months after the existence of these neuralgic pains, the upper eyelid of the same side fell, and the eye was drawn outwardly.

In these cases it cannot be doubted that the neuralgia of the fifth pair preceded the paralysis of the third. As in the third case the neuralgia may have ceased for a longer or shorter space of time, and then the paralysis may seem to be independent of it, until due inquiry is made. M. Marchal is certain that a great number of cases of paralysis, consecutive to neuralgia may, in this way, be detected.

M. Marchal believes the following hypothesis offers the most probable explanation of the occurrence. The trifacial nerve, and the common motor oculi, meet in the ophthalmic ganglion, the former furnishing it the sensitive root by the nasal branch, the latter the motory root from its inferior branch. It will be admitted that a reflex morbid action may take place within this ganglion, by which the affection, which is expressed in the sensitive nerve by pain or anæsthesia, is transmitted to the motor nerve, in which it is expressed by convulsion or paralysis—M. Marchal says convulsion; for in the first case, the eye was drawn inwards, as it also was at first in the fourth. The symptomatology of the motor, as of the sensitive nerves, is of two opposite kinds; pain and anæsthesia for the latter, convulsion and paralysis for the former;

and in this way, prior to the paralysis of the rectus internus, it may have been in a state of excitement, during which the eye would be drawn inwards.

This hypothesis is consistent also with the most plausible theory of the functions of the nervous ganglions—true miniature brains, as they have been called, for the regulation of special actions—receiving impressions by filaments continued from the sensitive roots, and conveying these by the motory filaments—presiding over the nutritive phenomena by their gray fibres, and only advertising the brain proper of what is occurring in their localities, under extraordinary circumstances. In this way, the ophthalmic ganglion, in particular, would be affected in the relations prevailing between the retina and the iris, and certain muscles of the eye. Advertised of the vicissitudes of sensibility of the retina by its connexion with the optic nerve, it reacts upon the iris, harmonising the pupil according to the degree of sensibility of the retina, and acts reflectively by its motory root upon the muscles of the eye, which are influenced by the third pair.

There is, then, besides the perception belonging to the brain, another, viz. a *ganglionic* or *organic perception.**

We shall be enabled to complete this Report on Ophthalmic Medicine and Surgery in our next Volume, and to include an Abstract of any new works, discoveries, and improvements, which may reach us to the time of the concluding part going to press.

* Med.-Chir. Rev., Oct. 1846: from Archives Générales.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

THE literature of the obstetrical department of medical science has received but few additions since the date of our last Report, in the form of distinct treatises; the only one, in fact, which has reached us, is a volume entitled 'Practical Observations on Midwifery,' by Drs. M'Clintock and Hardy. In the possession of this work, we consider that the profession has received a most important gift. As a work of reference, it is especially valuable, embodying the results of an extended experience under almost every disease and emergency peculiar to the puerperal state. We shall submit its contents to a careful analysis during the separate stages of the present Report.

It is our duty also to announce the establishment of a periodical publication specially devoted to obstetrical subjects, under the editorship of Dr. Clay, of Manchester. It is, we believe, the first attempt in this country of the kind, but one for which the increasing energy which pervades this branch of science has created an ample field. From the high character of many of the communications already received, and the known industry of its conductor, we argue well for the prosperity of the 'British Record of Obstetrical Medicine,' and we trust long to see its regular appearance among the list of our exchanges.

The various journals of this and foreign countries have contained, during the past six months, an average amount of valuable essays and communications. Such of these of value as have not appeared among our Extracts, we shall embrace in the present Report.

§ I.—*Exhibition of Anæsthetic Agents in Midwifery.*

The use of ether and chloroform, but more particularly the latter, in natural and difficult labours, has caused for some time past, and still continues to excite unusual attention, and no little discussion has ensued, not only as to its beneficial effects, which but few are disposed to dispute, but also respecting the propriety of annulling the pains of parturition on religious and moral grounds.

In reference to the opposition exhibited by certain well-meaning but mistaken religionists, who would doom woman to the most fearful physical agony which human nature is called upon to endure, fearing lest they should endeavour to controvert what they interpret as the will of God, we have already (Vol. V, p. 383) shown that the whole force of the objection falls to the ground, simply for the reason that no such denunciation as they choose to imagine has been made; but the subject has subsequently been so ably handled by Dr. Simpson, that by way of dispelling any lurking doubts in the minds of our readers as to the propriety of relieving a suffering woman in the hour of her peril, we shall give a brief recapitulation of his line of argumentation.

It may be premised that those who object to the superinduction of anæsthesia during parturition on religious grounds, found their objections upon the words of the curse pronounced by the Almighty after the fall of man. Dr. Simpson shows that these objectors have never troubled themselves to inquire into the real meaning of the words in which the denunciation is

framed, but have trusted to the common translation, without considering that there is a possibility of more or less of the passage having been misinterpreted.

With respect to the words themselves, it may be stated, as Dr. Simpson remarks, that the curse is triple, referring not only to the woman, but to the serpent and to the ground.

Now God himself shows that, in the case of the woman and the ground, the curse is not immutable, for he promises their removal; as in Deut, vii, 13, "I will bless the fruit of thy womb," &c.; and again, xxviii, 4, "Blessed shall be the fruit of thy body, and this the fruit of thy ground."

Again, Dr. Simpson shows, if we are bound to take the curse *literally*, we must do so in its whole extent, and if it be sinful to endeavour to counteract one portion of it, it is so also with the other. Not only, then, must we refuse to assuage the pains of labour, but we ought not to cultivate the earth; for in causing it to bear corn, we in so far counteract the Almighty fiat, that it should bear only "thorns and thistles." But who blames the agriculturist if he pulls up these weeds? Man is also enjoined to eat bread by the sweat of his brow, but no one accuses him of impiety because he employs steam-power and horse-power, and thus saves his own labour.

To proceed with Dr. Simpson's argument—If it be justifiable in the agriculturist to endeavour to counteract one portion of the curse, as regards the earth, it is also allowable to the physician to counteract another, as regards the woman.

But the entire absurdity of the pietistical objections in question is most distinctly shown in the fact that the word, rendered in the common version "sorrow," cannot be made to signify *physical pain*. The Hebrew word (*'etzebh*, or *itzabhon*) as Dr. Simpson demonstrates, is derived from the root *'atzabh*; the signification of which, according to Gesnerius, is to *labour*, *form*, *fashion*, or, again, to *toil*, to *grieve*; and the noun *'etzebh* is, therefore, he thinks, rightly understood to refer to the *toil* or *muscular effort* necessary for the act of parturition, and not to the *physical pain*. The very same word, in fact, wherever else it occurs in Scripture, evidently refers to *toil*; as in Gen. v, 29, "And he called his name Noah (comfort), saying, This same shall comfort us concerning our work" (*'itzabhon*), &c. Again, Prov. xiv, 23, "In all labour (*'etzebh*) there is profit," &c. &c. It is, therefore, says Dr. Simpson, not an illegitimate deduction, if a certain word (*'etzebh*) occurs as it does in only six Rabbinical passages, and in five of these has no reference to *pain*, but merely *muscular effort*, that in the remaining passage it would also have the same signification. That such a deduction, however, is legitimate, is shown by the fact, that whenever in Scripture the pain of a woman in particular is alluded to, other words are used, viz. *khil* and *khebel*. The references to these words are, Psalms, xlviii, 6, "Fear took hold upon them, and pain as of a woman in travail" (*khil*); Jeremiah, vi, 24; Isaiah, xiii, 8, &c. &c.

Again, Dr. Simpson argues that even if it could not be contravened that the primeval curse did apply to the infliction of bodily pain, still to suppose that the abidance under the curse is intended, is to nullify the whole testimony of revealed truth as to the intention of the death and sacrifice of Christ, who is expressly stated to have "borne our griefs and carried our sorrows," and to have offered himself as a peace-offering to the insulted majesty of the Creator, and thus to have averted the penalties of the fall.

He shows, in the last place, that the same absurd objections were made to the introduction of vaccination as to the abolition of parturient suffering. "Smallpox," observes Dr. Rowland, "is a visitation from God, but the cowpox is produced by presumptuous impious man. The former heaven ordained;

the latter is, perhaps, a violation of our holy religion." How puerile do such sentiments now appear! but they are equalled, if not surpassed, in absurdity by the objectors on religious grounds to obstetrical anaesthesia.*

—An objection to the induction of anæsthesia in parturition of a moral nature has also been urged by Dr. Tyler Smith, in his 'Lectures on the Mechanism of Parturition.' Reasoning from the analogy of the lower animals, many of which are known to exhibit great ovarian or sexual excitement during and immediately after parturition, he considers that the human female would also manifest the same erotic tendencies, were such feelings not kept in abeyance by the acute physical suffering attendant upon the process. If therefore, he argues, we abolish the pain, we run the risk of allowing ovarian excitement to have full play, and thus become the means of inducing an immodest exhibition, which would be equally painful to all parties concerned. We do not deny that erotic excitement may occasionally display itself in the human female at the period of parturition, as well as in the brute, but we are not disposed to allow that it is so general as Dr. Tyler Smith would insinuate; and, moreover, when such excitement does exist, it is, we believe, more commonly manifested *after* than *during* childbirth, and, therefore, would not be influenced by the exhibition of chloroform, which would only be made during the actual process of the expulsion of the child.

—Among other communications adverse to the use of anæsthetics in midwifery, we may allude to papers by Mr. Barnes† and Mr. Greaves;‡ but neither their contents nor the spirit in which they are evidently written entitle them to further notice. These, with the exception of a few isolated reports of unpleasant effects, or failures in the action of chloroform, constitute the main bulk of the opposition which has been brought to bear upon the subject. We shall now proceed to give a short abstract of the evidence which has been adduced on the opposite side of the question.

Firstly. Professor Simpson reiterates his belief in the advantages to be derived in anæsthesia in natural and morbid parturition, stating that since the introduction of ether, and previously to his discovery of chloroform, he had used the former, with few and rare exceptions, in every case of labour which had come under his care, and with results the most gratifying. He had never, he observes, seen better or more rapid recoveries, nor has witnessed any disagreeable results either [illegible] mother or child. His own conviction is that the practice will become very general, if not universal; and that even if medical men oppose it, unless, indeed, they can give better reasons than they have hitherto done, their patients will force them into its use; and this we think a not unlikely result.

—In a more recent publication by Dr. Murphy, the more matured experience of the profession regarding the use of chloroform in midwifery is very favorably portrayed. Seven cases are narrated, well calculated to test its efficacy, being all cases of more than ordinary obstetrical difficulty. The first was a case of contracted pelvis and delivery by perforation; the second, also contracted pelvis and delivery by turning; third, craniotomy, performed on account of the obstruction of a fibrous tumour; fourth, a forceps case; fifth, shoulder and arm presentation; sixth, tumour obstructing parturition; seventh, a forceps operation.

Dr. Murphy, in common with Dr. Snow, divides the effects of chloroform into three stages. In the first there is some excitement, consciousness, and

* Answer to the Religious Objections advanced against the Employment of Anæsthetic Agents in Midwifery and Surgery, by J. T. Simpson, M.D., Edin., p. 24.

† Lancet, April 15.

‡ On the Use of Anæsthetic Agents in Natural and Morbid Parturition, 1847.

volition remaining, but the sensibility of the nerves being blunted; the pulse not increased in frequency, and the action of the uterus unimpaired, with increased vaginal secretion and relaxation. In the second degree, the patient becomes insensible to pain, the pulse falls, the voluntary muscles are torpid, but the uterine contractions continue, and the vagina remains moist, as in the first stage. In the third degree, uterine action is suspended, the respiration becomes stertorous, and vomiting occasionally ensues. As may be surmised from these effects, Dr. Murphy considers it sufficient to induce only the first degree of insensibility in ordinary cases, and, in such, reserves its use till the second stage of labour; in certain cases requiring operation, he admits of a deeper insensibility.

As the result of a dispassionate inquiry into the subject, he gives the following conclusions:

1st. Chloroform does not interfere with the action of the uterus, unless given in large doses, which is unnecessary.

2d. It causes a greater relaxation in the passages and perineum. The mucous secretion from the vagina is also increased.

3d. It subdues the nervous irritation caused by severe pain, and restores nervous energy.

4th. It secures the patient perfect repose for some hours after delivery.

5th. Its injurious effects, when an ordinary dose is given, seem to depend upon constitutional peculiarities, or improper management.*

—A paper has also been read quite recently before a meeting of the Westminster Medical Society, by Mr. Brown, giving evidence much in favour of the use of chloroform in midwifery. The author, however, while praising its beneficial effects, admits that it is not without danger both to mother and child, if given indiscreetly. If it be given too rapidly, for instance, or if the apparatus does not admit a free supply of atmospheric air, some unpleasant consequences are almost sure to follow. Mr. Brown's mode of exhibiting it is in accordance with the recommendation of Dr. Simpson, to give a few inspirations just before each pain, keeping the patient just asleep in the interval. He sprinkles fifteen or twenty drops of chloroform on a pocket-handkerchief, and approaches it to the patient's face cautiously. If this quantity is sufficient to subdue the pain, and enable the patient to bear the expulsive effort without inconvenience, he does not on the next pain increase the dose, but uses the same quantity, or even diminishes it, if not required. Mr. Brown is clearly of opinion that chloroform possesses not only anæsthetic properties, but that in small doses it actually excites uterine contractions. In reference to the ultimate effects in the progress of the case, he does not hesitate to state that when employed as above, it is decidedly beneficial.†

—Dr. Nevins, in an essay before alluded to, mentions as the general results of the exhibition of chloroform, that, though the labour occupied the usual period, less fatigue and exhaustion ensued, the recoveries were unusually rapid, and the after-pains trifling. The hemorrhage which followed the expulsion of the placenta was also less than usual.

—The individual reported cases in which chloroform has been administered in labour are far too numerous to be mentioned in detail; but we may state briefly that they include instances of natural labour, operative midwifery, puerperal convulsions, &c. Of the latter, three cases are recorded in this country, by Messrs. Clifford, Fearn, and Wilson; and one in France, by M. Richet. In all, the convulsions ceased under its influence.

* Chloroform in the Practice of Midwifery, by Edward Murphy, M.D.
† Lancet, April 29.

Little remains to be added to the above accounts of the present state of the interesting question of the employment of anæsthetics in midwifery. It is abundantly evident, as it appears to us, that judiciously administered, excepting in a few cases of idiosyncrasy, it is not only innocuous both to mother and child, but that the different stages of labour are passed through with a diminution of suffering, and also that a positive mechanical improvement in the physical condition of the parts implicated is brought about. It is a question whether its use is to be advised indiscriminately in those cases of natural labour in which the pains are comparatively slight; but we do not hesitate, taking the present aspect of the question to be the true one, to state, that in every case of natural labour, in which the suffering is inordinately great, or whenever operative interference is necessitated, anæsthesia *ought* to be induced; and we moreover consider that the accoucheur who, under such circumstances (no special contraindications existing), neglects to avail himself of the inestimable benefits thus placed within his reach, neglects a large portion of the duties which are attached to his responsible office. We repeat that this is our *present* opinion, based upon present experience of the effects of anæsthetic agents; what modifications in these views may be induced by the further investigations of the profession remains to be seen.

§ II.—*Diseases of Females unconnected with Pregnancy.*

1. *Lymphatic Tumour of the Breast.*—Under this title Dr. Milman Coley describes a disease of the female breast, characterised by a painful swelling, consisting of several cord-like indurations, evidently located in the absorbent vessels. He states, that the tumour may readily escape detection upon a superficial examination, but can always be recognised by taking the part between the finger and thumb. The absorbent glands in the axilla sometimes sympathise, but these engorgements disappear after the original disease has subsided; the lymphatic swelling in the breast also frequently retires, leaving no vestige behind it. In extreme cases, however, a permanent thickening takes place, occasioned by the deposit of lymph in the cellular membrane. This disease usually attacks females between the ages of fifteen and thirty-five, and is liable to recur repeatedly, where the constitution is in the peculiar state predisposing to it. This condition is one of comparative emaciation, accompanied with irregular or deficient menstruation, depression of spirits, and general debility. Hence, suckling and chlorotic women are most frequently the subjects of attack. In some instances, the patients are inclined to attribute the origin of the disease to external violence; in the majority of instances, however, if not in all, it has appeared to proceed from imperfect menstruation. In one instance, in which the author had an opportunity of examining the uterus in a patient labouring under this disease, he found the posterior portion adjoining the cervix in a state of congestion, presenting to the finger a doughy or anasarcous feeling. The size of the tumour in the mamma varies from that of an almond to that of an adult thumb; and the pain and tenderness attending it are of a remittent character. In some rare cases it attains nearly the size of a pullet's egg in large and plethoric mammæ.

One of these tumours, which was removed at the earnest solicitation of the patient, who had suffered severely from repeated attacks of the disease, was found, on examination, to consist of thickening of the coats of the lymphatic vessels, imbedded in a stratum of condensed cellular membrane.

The affection is considered by the author to depend on a defective state of the general health, and more particularly upon an imperfect discharge of the uterine functions. Its duration is uncertain, often returning, and as often

subsiding, in some cases; in other and more severe cases, it terminates in painful and obstinate ulceration, which, in external appearance, has a considerable resemblance to that proceeding from scrofula, the absorbent glands in the vicinity being enlarged, tender, and painful, and the discharge copious. Before ulceration commences, the cellular membrane subjacent to the skin becomes indurated; this induration is gradually softened, the skin assumes an inflamed appearance, and a small, chronic, scrofula-like abscess is the result. The ulcer which follows resists all local treatment until the proper constitutional remedy is adopted.

Diagnosis.—The discrimination of this disease from others resembling it is not difficult. From the chronic, mammary tumour, described by Sir A. P. Cooper, it may be distinguished by the pain and extreme tenderness, by the vitiated state of the patient's health, by the absence of lobes and of any cyst, and by the disease invading the breasts of suckling women more frequently than those of virgins. The condition of the uterus, too, is widely different; in the mammary tumour, a state of excitement prevails; in the lymphatic tumour, a deficient circulation takes place in that organ, manifested by the discharge of an imperfect secretion, or false membrane, from its mucous surface.

From the irritable tumour, and neuralgic state of the breast, this disease may be known by the transverse, parallel, or anastomosing, cord-like bands, which are always present, by the remission of the pain and tenderness, and by the latter symptoms being confined, as far as regards the breast, to the immediate locality of the tumour. The diagnosis in the examination of very large breasts is sometimes difficult.

Treatment.—When the pain and tenderness are excessive, leeches and evaporating poultices may be applied to the integuments over the tumour. In general it will be found unnecessary to adopt any local remedies, as the pain is not acute, but usually of an aching kind, like that accompanying rheumatism or phlegmasia dolens. The patient should take some preparation of iron twice daily, have the bowels relieved by an aloetic aperient, if needful, and use a generous diet, and gentle exercise in the open air. Should suckling have been long continued, the infant should be weaned, especially if the patient has been the mother of many children. By attending to these directions the tumour will entirely disappear in a few weeks, or all uneasiness will be so far removed that the patient will feel no inconvenience from it, unless the constitutional and uterine derangement should recur.*

2. *Preternatural Elongation of the Cervix Uteri.*—The same writer mentions as an occasional consequence of passive congestion of the uterus, a remarkable elongation of its neck, which, becomes not only extended in length, but also increased in thickness, so as to resemble the teat of the cow. When it admits of relief from medicine, he finds the ioduret of iron, with rest, in the recumbent posture, combined with support, by means of a soft sponge, sufficient to effect a cure; and when the case is rebellious to this treatment, he advises the superfluous part to be amputated, which he states may be done with safety. Two cases are related illustrative of both modes of treatment.†

3. *Polypus Uteri.*—Dr. Mitchell reports a case of uterine polypus, in which the ligature was nine days in cutting through the pedicle, and was accompanied by severe hemorrhage. He has likewise some comments upon the diagnosis of the disease and the application of the ligature, which we do not find to include any remark either of novelty or interest, beyond the recom-

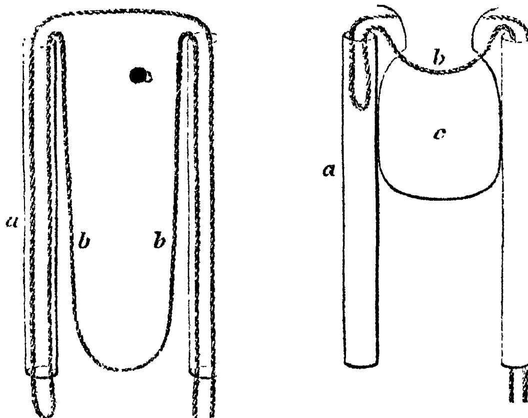
* Lancet, May 27, 1848. † British Record of Obstetrical Science, No. 1.

mendation to have each extremity of the cord armed with wire a foot long, by which means it is made here readily to traverse the canula.*

—In a communication to the Medico-Chirurgical Society by Dr. Locock, entitled, "Peculiarities of Polypus of the Uterus," the author calls attention to a small variety of polypus which may be attached so high in the cervix as to be scarcely reached, and which is a frequent cause of profuse menorrhagia. For the extraction of these he has had an instrument constructed like a gouge, by means of which he removes the morbid growth. This gouge is inclosed in a canula, and is made to protrude by a screw in the handle. The canula being passed through the cervix, its cutting edge is pressed against the base of the polypus, and it is gently worked half round till it cuts through. In reference to the incision of larger polypi, the author speaks strongly of the advantage of twisting the pedicle two or three times round previous to using the cutting instrument; stating that since he had adopted this precaution he had never met with troublesome hemorrhage.

In the discussion which followed the above remarks, Dr. H. Bennet mentioned the subject of the fetid discharge which frequently remained after the polypus had sloughed away, and which is commonly supposed to come from the peduncle. This opinion Dr. Bennet had satisfied himself was incorrect, but that it in reality proceeded from ulceration of the mucous membrane surrounding the peduncle. This fact he considers to have been previously unknown.†

4. *Simple Method of applying a Ligature to Uterine Polypi.*—The recommendation of this method is its simplicity. M. Favrot, who mentions it, takes two gum-elastic catheters, and cuts off the end of each just above the eye; he then doubles a piece of silk, of convenient length, and inserts the loop into one catheter, and the two ends into the other, and brings each extremity out of their lower end. This being done, the next step is to separate the two threads between the upper ends of the catheter, and to bring one down in the form of a loop, leaving the other, which is carried up to the pedicle of the tumour, as in the ordinary operation. The application then is as follows:—



a a catheters; *b b* loop; *c* polypus.

The catheters, or sounds, together with the interposed thread, are carried

* British Record, Nos. 1 and 3.

† Reported in Lancet, May 6.

up to the base of the tumour, the thread forming the loop being held on each side with the respective catheters. This being done, the loop is allowed to glide over the tumour, the two catheters are transferred to one hand, and the two ends are drawn down so as to tighten the loop, which eventually passes entirely out of the sound which contained it, and encircles the pedicle. The empty catheter is then removed, and the ligature fastened at the base of the other.*

This description is rendered more intelligible by a reference to the annexed diagram. (See page 311.)

[We have lately tried this plan, but did not find it by any means so simple as it appears. There was great difficulty in getting the thread to run freely through the sound, and still greater in fixing it sufficiently firm afterwards. We were obliged at last to use Grooch's instrument.]

5. *New Form of Pessary for Prolapsus Uteri.*—Dr. Reid has contrived an instrument which he calls the "womb supporter." It is formed of two separate steel springs, very narrow at the ends by which they are joined together; the free extremities being each one inch and three quarters broad, convex externally and concave internally, so as to admit of cork being attached to it; and the whole being covered with elastic gum, it has no sharp edge. The two narrow ends of the springs are fastened together by an intervening piece of ivory or wood, so formed as to allow the broader extremities to separate from each other to the extent of two inches and a quarter at their outer surfaces. The two free ends are pressed together when introduced into the vagina, and are then allowed to expand, and to become applied to either side of the cervix uteri. The instrument is then gently pushed up, until its narrow end is at the vulva, thus raising the womb with it at the same time. (A second form of the instrument has a contrivance by which the ends can be easily drawn together, and the introduction as well as the extraction of the instrument facilitated.) A button is fixed to the connecting piece of ivory, and to this button a loop of vulcanized India rubber is attached, through which a T bandage, riband, or other guard can be attached or fixed to the stays. †

— A new form of uterine support has also been invented by Mr. Scholefield, of which the following is a description and representation.

Description.—The composition is porcelain; the pillar is about three inches in length, circular, and half an inch in diameter; the top is circular, and made of various sizes, being hollowed into a cup-like cavity on its upper surface, for the reception and support of the labia uteri; the bottom is of an oblong figure—its angles rounded, measuring in length an inch and a half, and in breadth half an inch, having two small oblong holes in it, equidistant from the extremities, through which straps pass to be fixed to a belt around the patient's waist. The straps are composed of vulcanized India rubber, about twenty-four inches long, half an inch in breadth, and one eighth of an inch in thickness. There is one strap in front, doubled on itself at the hole in the bottom of the pessary, and its ends are buttoned to the belt; a similar arrange-

* Revue Médico-Chirurgicale, Jan. 1848. † Lancet, May 6, 1848. ‡ Ibid.

ment exists for the back strap. The belt is of a suitable length and breadth, has a buckle at one end, and four buttons on it.

Application.—The belt is to be applied around the waist with sufficient firmness to prevent its slipping downwards. The buckle is to be placed in front of the abdomen, above, and immediately opposite to the umbilicus; and if the belt is of a suitable length, the buttons front and back will be exactly opposite each other. The distance between the two front buttons should be three inches, and a similar space between those at the back. When the pessary is applied, the lower part of the pillar should press a little against the fourchette, and the straps, when of a proper length (the length required varies in different cases), should allow the bottom of the pessary to be from a quarter to half an inch from or below the vulva; for if the bottom of the pessary is immoveably fixed in consequence of the straps pulling it so tightly to the vulva as to prevent the slight degree of mobility necessary, (if the case be one of procidentia,) there will be a danger of the uterus slipping from the top of the instrument; but this untoward accident may with certainty be avoided, if the above direction be acted on when the pessary is applied.*

7. *Amputation of the Cervix Uteri.*—A case is recorded by Mr. Moore, of Derry (U. S.), in which 2½ inches of the cervix were removed in a young female, æt. 27, for suspected cancerous degeneration. The patient did well.†

8. *Retroflexion.*—This subject, which we have noticed in Article 8 of the 'Abstract,' may be continued by a notice of two essays, which have subsequently appeared, by Dr. Protheroe Smith and Dr. Simpson.

—Under the title of "Flexions, Torsions, and Malpositions of the Uterus," Dr. P. Smith has published a paper in the 'British Record,' in which he expresses his opinion as to the great frequency of this affection, and the facility with which it is confounded with tumours of the organ. The displacement, he observes, may occur before puberty, but is more common after menstruation is established. The extent of the flexure varies: sometimes is very slight, at others so great that the increased fundus may be felt as low as the os. Of the symptoms and means of diagnosis, an accurate account is given by his former pupil Mr. Hensley (see 'Abstract,' Art. 84), and it is therefore unnecessary to repeat Dr. Smith's description of them, which is for the most part the same.‡

—In his latest communication on the same subject, Dr. Simpson makes no distinction, excepting one of degree, between "retroflexion" and "retroversion," believing such distinction to be an unnecessary refinement; in this he differs from Dr. P. Smith, Dr. Rigby, and others, who speak of the two forms of displacement as essentially different in nature, causes, and symptoms. "Practically," says Dr. Simpson, "there is no true difference between these modifications of morbid position of the uterus;" and he therefore includes both degrees under the generic term "Retroversion." [It is with deference that we venture to differ from so high an authority as that of Dr. Simpson, but we cannot avoid entertaining the opinion that some further distinction than that of degree is to be drawn between retroflexion and retroversion, although some of the mechanical symptoms may be identical in the two varieties of displacement. It must, for instance, in reference to the condition of the uterine circulation, make a vast difference, whether the entire organ be displaced backwards (retroversion), or whether the body of the organ is bent upon itself (retroflexion); in the former case the axis only is

* Lancet. † Boston Med. and Surg. Journal. ‡ Nos. 1 and 3.

altered, and it may be conceived that the uterine circulation would be comparatively unimpeded; but in the latter case, in which the fundus is bent at more or less of an acute angle, we may equally readily imagine that considerable obstruction is offered to the return of blood from the lower segment of the cervix more especially, and hence is established a greater tendency to engorgement, if not ulceration, of the lower lip.]

Dr. Simpson divides the symptoms of retroversion or retroflexion into two classes, *functional* and *physical*. The functional symptoms are stated to be of hysterical or dyspeptic character, with local neuralgic pains in the breast, or some portion of the vertebral column; from mechanical obstruction of the displaced organ, there is also more or less constipation. Occasionally, the bowel is irritated, and mucous or fibrinous matters are expelled. The bladder is irritable, and there is sometimes incontinence of urine. There are symptoms of weight, tension in the uterine region, with pains down the thighs, which are much aggravated by exercise and the erect posture. The menstrual function is not in all cases morbidly altered, and when it is so, it is variously affected; in some cases being too profuse, in others too scanty. When a patient with retroverted uterus becomes pregnant, abortion is very apt to occur. But it is also often a cause of sterility; and Dr. Simpson has seen a permanently retroverted uterus in the unimpregnated state, in those instances in which women have borne children at intervals of several years.

The physical signs of retroversion are chiefly such as are made out by the touch and the use of the uterine sound. The speculum, in Dr. Simpson's opinion, does not assist the diagnosis in any respect.

On an accurate vaginal examination, the fundus of the uterus is felt as a globular tumour, between the os and the rectum; it is smooth and ovoid, more or less sensitive to pressure. The os and cervix may be displaced forwards, or remain nearly in situ. The tumour, felt in the recto-vaginal pouch, may be known to be the fundus uteri by tracing the continuity of structure with the finger; but, as Dr. Simpson states, this alone is very liable to lead to error; for if the uterus is retroflected at an acute angle, the continuity is lost at the point of flexion. Other means therefore become necessary, and a ready mode of exploration is offered by the uterine sound. This instrument has the configuration of a slender male catheter, fixed in a handle, and marked by notches indicating inches, so that the length of the uterine cavity can be accurately measured. The use of this instrument, as a means of diagnosis in retroflexion, depends upon its enabling us to ascertain the direction of the uterine cavity, which is found to point backwards and downwards, instead of upwards and forwards. A more minute description of the method of using this instrument is unnecessary, as it is given in sufficient detail by Mr. Hensley. (Vide supra, p. 164.)

Retroflexion of the unimpregnated uterus is, however, not only often entirely overlooked, but it is often mistaken for other lesions. The principal sources of error are thus pointed out by Dr. Simpson:

1st. *Pregnancy.*—Dr. Simpson has frequently seen the retroverted fundus mistaken for the fullness in the cervix induced by early pregnancy; a lamentable instance of which he alludes to.

2d. *Fibrous tumour.*—This is a frequent source of error. The functional symptoms are the same, and there is the same continuity felt between the cervix and body. The introduction of the bougie at once clears up the diagnosis by passing backwards into the apparent tumour, thus showing it to be the retroverted fundus.

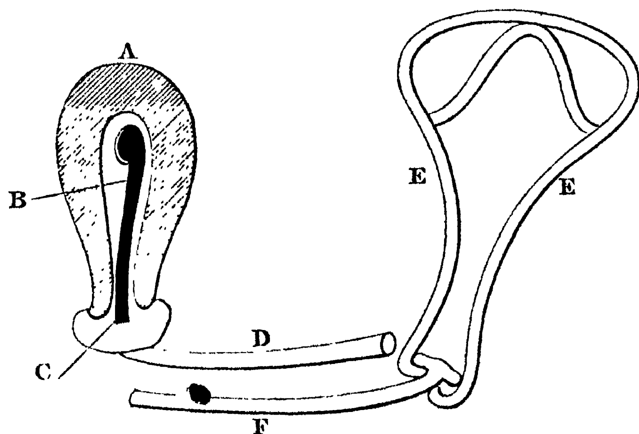
3d. *Ovarian tumour.*—When the ovary is enlarged it almost always first

grows downwards into the recto-vaginal space; in this state it may be mistaken for the retroverted fundus. Here, again, the case is rendered obvious by the sound passing in a normal direction.

4th. *Pelvic cellulitis.* 5th. *Extra-uterine conception.* 6th. *Organic disease of anterior walls of the rectum.* 7th. *Stricture of the rectum.*—In each of these states, the uterus is found to be normally situated, as indicated by the sound.

The *organic state* of the uterus in retroversion, is stated by Dr. Simpson to be variable. He has seen it coexistent with fibrous tumour, but more frequently the uterus is merely hypertrophied. In a large number of cases the organ is not at all increased in size, and in some few it has been found even smaller than natural.

The *treatment* of retroverted uterus, as laid down by Dr. Simpson, includes three indications—first, the removal of any coexistent morbid condition of the uterus, as engorgement, and by appropriate means; second, the restoration of the misplaced organ, by means of the sound, and then by the retention of it in its normal situation. This is the most difficult part of the treatment, and requires, in most cases, the support of a special apparatus which Dr. Simpson has devised, and of which we give a sketch below.



This form of uterine pessary is made up of two parts, an internal part, provided with a stem (B), a bulb or ball (C), and a vaginal curvilinear tube (D), and an external part, consisting of a wirework frame (EE), about five inches long and three broad above, gradually tapering to half an inch below. To the lower extremity is attached a curvilinear rod (F), made to fit the vaginal tube (D).

The application of this instrument is as follows: The internal portion is first passed up the vagina, the stem entering the uterus (A), which is then replaced by turning the concavity of the instrument forwards, as in the case of the uterine sound. This being done, the solid vaginal portion (F) of the external part of the apparatus is slid into the vaginal tube (D), and the framework then comes against the pubes, to which it may be moulded; the two vaginal portions work after the fashion of a trochar and its canula. When required to be withdrawn, the pubic portion is first bent back, then the vaginal pieces unlocked and removed, and lastly, the canula and stem extracted.

It might be expected, and with some reason, that the presence of this stem in the cavity of the uterus would cause inflammatory symptoms, but it appears, from Dr. Simpson's account, that such is the exception rather than the rule; he has seen it worn for six months without inconvenience. In cases which cannot bear the pessary, he contents himself with reducing the irritation by leeches, and belladonna pessaries, followed by tonics. The abdominal bandage with perineal support is also in such cases found to be beneficial.*

—Two cases of retroflexion of the uterus in the unimpregnated state are reported by Dr. Flamm, of Warsaw, but offer no points of special interest. The narrator appears familiar with Dr. Simpson's writings on the subject, but makes no mention of the uterine supporter.†

§ III.—*Pregnancy—Labour—The Puerperal State.*

9. PREGNANCY.—*Signs of—Obstetrical Auscultation.*—Professor Hohl,‡ of Halle, has contributed an article on this subject, the details of which, from their importance, we give at some length.

Region in which the sounds are heard.—From former observations made on 200 pregnant women, the author determined that the pulsations of the heart are normally heard in the left abdominal region, while the placental souffle is heard oftener on the right side than on the other; these results he further confirms by fresh observations, 500 in number. Of these, in 316 cases of normal presentation, the fœtal heart was heard on the left, 159 times on the right. The placental souffle was perceived on the right 256 times, on the left 158 times; on both sides and below 50 times, of which 13 were instances of placenta prævia.

The relations of the two orders of sounds.—In the 316 cases in which the fœtal heart was heard to the left, the utero-placental souffle was heard on the right in 256. In the 168 cases in which the souffle was on the left, the fœtal heart beat 159 times on the right. The two sounds were on the same side in 102 instances—the souffle was heard below and on both sides 50 times.

The seat of the utero-placental souffle.—M. Hohl places this at the spot corresponding to the insertion of the placenta, for the following reasons:

1st. In 21 cases of artificial delivery, the placenta was fixed where the souffle had been heard.

2d. In 15 cases in which the placenta was implanted over the cervix, the souffle was heard very low down.

3d. In 90 cases the insertion was verified by post-mortem examination.

4th. In 8 cases where turning was practised, the seat of the placenta was ascertained by auscultation.

5th. In a case of extra-uterine fœtation, the pulsation of the fœtal heart being heard on the left side, and the placental bruit on the right, it was found after death that such was the position of the fœtus and the after-birth respectively.

Auscultation in multiple conceptions.—Twins may, according to the author, be always diagnosticated, unless one be dead, or the one lie exactly behind the other.

Auscultation in reference to the position of the fœtus.—In 290 first occi-

* The Dublin Quarterly Journal, May 1848. † Zeitschrift für die Gesammte Med. Feb. 1847. ‡ Neue Zeitsch. für Geburbzkunde, vol. 22, 1847.

pital presentations, the child's heart was heard to the left in 281, to the right in 5, not heard at all in 4. The placental bruit was heard to the right in 251, to the left in 30, below in 9. In the second occipital position, the heart was heard on the *right* side in 132 out of 148 cases, to the left in 10, unheard from death of the fœtus in 6. The placental bruit was found 90 times on the left, 38 times to the right, 8 times below, in 12 it was not heard.

From these results it is clear, that in most cases the fœtal heart is heard on the left in the first cephalic position, and to the right in the second.

In presentation of the face, the diagnosis is less precise; in 6 cases of first facial position (front to the left), the heart was heard on the left in 3, on the right also in 3. In two cases of second position, the heart beat to the left, the placental souffle was heard to the right.

In *shoulder presentation.*—In 7 cases of presentation of the right shoulder, head to the left, the back to the front, the heart was heard immediately above the pubis.

The author finally concludes, that though pulsation of the fœtal heart is an indisputable sign of its life, the absence of these pulsations is not conclusive of its death. The placental bruit may persist some time after the death of the fœtus.

[By a comparison of the above results with those of Depaul ('Abstract,' Vol. VI, p. 300), it will be seen that a considerable difference exists in the opinions of the two writers, especially in reference to the site of the placental bruit.]

10. *Fœtal Movements.*—There is no opinion concerning the condition of utero-gestation more generally diffused, than that which attributes the movements felt at a certain epoch in pregnancy to active motions of the fœtus; and so conclusive has this evidence been considered of the vitality of the child, that operations have been performed solely on the testimony so afforded. In one of his very interesting lectures on the Physiology of Parturition, Dr. Tyler Smith ventures to call this common opinion in question, and to affirm that these movements do not depend upon the fœtus, but are true peristaltic movements of the uterus itself. His reasons for thus thinking are these. In the first place, these movements are sometimes felt as early as the fifteenth week, when the possibility of their being produced by the fœtus is out of the question. Again, the movements are often so intricate, and points at which the apparent contact of the fœtus takes place so numerous, that they could not be produced but by the simultaneous movements of several fœtuses. The emotions of the mother also have considerable influence over them, which is more consistent with their uterine than their fœtal origin. The same may be said of the effect of cold to the abdomen. The movements are moreover felt when subsequent events prove the child to have been dead at the time, also when the uterus has contained hydatids. On the other hand, they have been absent, and the child consequently pronounced to be dead, when it has been born alive.

Dr. Tyler Smith further remarks, that the fœtal limbs are often marked by indentations showing the continued pressure of one upon the other. This is also incompatible with the frequent change of position. Again, asks Dr. Smith, what motor power could excite this, in some cases, almost perpetual motion? Volition, or cerebral voluntary movements, cannot take place before respiration. [Is this certain? Ed.] Emotion is equally wanting: the reflex action too must be obscured by the protection afforded by the liquor amnii, and, moreover, the movements are equally strong in anencephalous fœtuses.

For the above reasons, the author concludes that the movements are peristaltic and uterine.*

11. *Kiestein as a Test of Pregnancy.*—Dr. Golding has published an elaborate paper, in which he seeks to establish the just value of this sign. He commences by noticing in turn the several indications usually relied upon, as auscultation, state of the breasts, suppression of the menses; and he proceeds to the consideration of kiestein in a series of sections, embracing the several questions of interest connected with its formation.

The presence of the sound of the fœtal heart is, of course, the most unequivocal sign of pregnancy; but this is only available after the fourth month. The placental souffle he shows to be less trustworthy. Of the state of the breasts, he observes that no indication can be more equivocal. His conclusions on this point are as follows:

1st. These conditions are equivocal after first pregnancies, seeing that the areola has undergone changes in colour, is increased in size, and has its follicles enlarged; these states remain permanent, though if the mammæ be observed during subsequent pregnancies, these characters may be better marked; it is only comparison, therefore, that will avail for practical elucidation.

2d. If the changes induced by utero-gestation are permanent, diseases of the uterus, by affecting the breasts sympathetically, may induce congestion and other changes in them, similar if not identical with those produced by pregnancy.

3d. In some rare instances, the changes described by Dr. Montgomery are absent even in first pregnancies; the areola remaining unchanged, and the mammæ flabby, till the commencement of lactation.

4th. In persons of fair complexion, the areola may be increased in extent, and have its follicles hypertrophied, without material change of hue.

5th. In those of dark complexion, the areola is naturally of a darker colour, and has its follicles better developed than in fair persons.

6th. During functional derangements of the uterus, the breasts have been noticed to undergo changes not readily distinguishable from those existing during gestation.

In drawing practical deductions from the suppression of the menses, Dr. Golding takes the following circumstances into account:

1st. Whether or no the cause of suppressed catamenia during utero-gestation be due to impregnation; or to other causes, in which, however, certain of the phenomena also attending pregnancy coexist.

2d. That in some females, the menses are not suppressed during pregnancy or during lactations. The menstruations occurring under such circumstances, whether uterine or vaginal, and whether dependent upon normal or abnormal causes, is attended with the same physiological effects, as in ordinary menstruation, both during its occurrence and accidental suppression.

3d. Any functional derangement of the uterus or other organ reacting upon that viscus may so affect it as to cause suppression of the menses.

4th. Sometimes the menses, though apparently, are not suppressed, being secreted, but not evacuated. The retention may cause vomiting, enlargement of the abdomen, sympathetic affections of the mammæ and stomach, with other effects also concomitants of the gravid uterus.

5th. That however strong a presumptive evidence of pregnancy cessation

* Lancet, March 11th, 1848.

of the menses may afford, it can never be certain evidence, unless corroborated by auscultation, or the indications afforded by the urine.

After thus discussing the usual signs of pregnancy, and showing the inconclusiveness of each under certain circumstances, the author next proceeds to the main object of his communication, the value of kiestein as a test.

The chief value he shows to consist in its being available during the whole period of gestation; in its existence alike in first and subsequent pregnancies; its being uninfluenced by the age, temperament, or habits of the female; its being found in pregnancy alone, and disappearing during lactation. When this coexists with amenorrhœa, Dr. Golding looks upon it as the only conclusive evidence of pregnancy before the fifth month.

In his investigation of the cause of kiestein in the urine, the author examines it under two aspects. 1st, as a secretion of the mammary glands, which are eliminated from the kidneys, not as yet being required for the nutrition of the fœtus; 2d, in its identity with milk. He then inquires under what circumstances its presence is most conclusive of pregnancy; what is the reason of his inconclusiveness, and whether kiestein is ever absent in pregnancy, and if so, whether it is really absent or only obscured by other matters?

The pellicle is determined by him to be most conclusive of the existence of pregnancy; when the maternal and fœtal systems are in a healthy condition respectively, it is then rarely absent. He recommends that, in searching for it, the urine examined should be that voided some hours after a meal. Sediments of lithates render the appearance more or less obscure, and therefore the most favorable conditions for finding the pellicle are the healthy state of the mother and fœtus, a non-sedimentary state of urine, and its alkaline reaction.

The reasons of the inconclusiveness of the appearance of the pellicle as a test of pregnancy are thus summed up by the author.

The kiestein, viewed as a secretion from the mammary glands eliminated by the kidneys, is influenced, as other secretions, by those conditions of the system which derange assimilation generally. Such agencies may diminish or entirely suppress the secretion of kiestein; when diminished, it forms a scanty scum on the surface of the urine, or may be entirely absent as long as the general derangement lasts. A plethoric state of the system also, in which the red lithates abound, influences the secretion of kiestein. The pellicle may be absent while the lithates exist, or be so scanty as not to form an uniform film. The yellow lithates do not interfere with its formation to the same extent.

On the question whether kiestein is ever absent throughout the utero-gestation, the author comes to the conclusion that it is occasionally absent, but only temporarily. He does not think that it is ever absent throughout the whole period of pregnancy. The general conclusions derived from his observations are as follow:

1st. Coetaneous with, or shortly subsequent to conception, the breasts assume a secreting action; the product of which, eliminated by the kidney, forms kiestein.

2d. If this action of the mamma be disturbed it is the result of disease, and may be removed by appropriate treatment.

3d. Kiestein, though not apparent, may still not be absent, but may exist in such small quantities as not to be appreciable.

4th. The essential characters of the pellicle are its iridescence, fatty nature, and cheesy odour. It also prevents the urine becoming putrid for some time.

5th. As the secretion of kiestein is a vital phenomenon, resulting from conception, it is often available before other signs of pregnancy.*

12. *Vomiting during Pregnancy.*—Dr. Churchill records a most interesting case, in which a lady, who was on the point of sinking from incessant vomiting, was saved by the opportune induction of premature labour. Ever possible means were tried before the adoption of this proceeding, but withou avail. Although at the point of death when the fœtus was expelled, and the retching had been incessant, she vomited only twice after the uterus was emptied, and in a fortnight was convalescent.†

—An instance of death from the same cause is reported by M. Forget Everything was tried but the induction of premature labour, about which French accoucheurs appear to entertain ridiculous scruples. The life of the woman in question was evidently sacrificed to this absurd point of conscience.‡

—M. Trousseau approves of the belladonna frictions recommended by Bretonneau.§ (See 'Abstract,' Vol. V, p. 287.)

13. *Superfœtation.*—Several additional cases of so-called superfœtation have been recorded. Dr. Horlsbeck mentions one in which two fœtuses were expelled; one of six months, the other clearly not more than of six weeks' gestation. In another, by Dr. Windriff, fœtuses, one of seven months, and another apparently under six, were both born alive, the former being well; the placenta and membranes were distinct. The author thinks the case unique, inasmuch as the fœtuses were born alive.||

—A case, which some may look upon as one of superfœtation, is also narrated by Mr. Newnham. In this instance the woman was prematurely confined of a stillborn fœtus, and another was distinctly found to present, but uterine action ceased, until the completion of her full time, when she was delivered of a full-grown healthy boy.

Mr. Newnham does not consider this to have been a case of superfœtation, but one in which the uterus threw off one of twins conceived at the same time, and which had accidentally died. The practical inferences he draws from the case, that in cases of premature labour, where one fœtus has been expelled, and a second remains in utero, if the membranes of the latter have not been disturbed, and uterine action has subsided, that the practitioner should not interfere, but wait and see if Nature will not remedy the disorder apparently produced. He justly regards this as a more justifiable proceeding than that of delivering artificially.¶

14. *Extra-uterine Fœtation.*—Cases have recently been reported by Dr. Watson, of Edinburgh,** Mr. Hyde,†† and Mr. Dalrymple.‡‡ The first proved fatal by rupture of the fallopian tube. In the second case, labour-pains came on at the end of the ninth month, after which the abdomen subsided, the woman dying of constitutional irritation after a lapse of two months. The termination of the third case was similar.

15. *Retroversion at the Sixth Month of Pregnancy.*—A case is reported by J. Seddon, Esq., the patient aged 38. First pregnancy, but had previously miscarried once. An attempt was made to restore the womb to its normal position, but failed. At the termination of the sixth month, uterine pains ensued, the funis descending through the os. Without any alteration of the position of the uterus, delivery was effected, which, after being completed, another attempt

* British Record, Nos. 1, 3, 5, 7. † Ibid. Nos. 1 and 3. ‡ Gaz. Méd. 15 Mars, 1848.
§ Gazette des Hôpitaux, No. 1, 1848. || Journal des Connais. Méd., Dec. 1847
¶ Brit. Record, No. 8. ** Ibid. No. 3. †† Ibid. ‡‡ Lancet, &c.

to restore the position of the uterus failed. Seven weeks after, the organ being still retroverted, a third unsuccessful attempt was made. Mr. Seddon is inclined to believe that the difficulty arose from the long displacement of the parts, and the organ accommodating itself to the position.*

16. *Imperforate Vagina—Labour.*—An unintelligible case of this kind is related by Dr. Ogden. The female had no external organs of generation, but a firm tumour was seen at the site of the vulva, caused by the presentation of the fœtal head. This was divided, and a child extracted. Two years after, she became pregnant, and the artificial vagina being unyielding, it was again incised, and labour completed. It appears that at the age of 19 she had been operated upon for retained menses, but the attempt to establish a vagina failed. The difficulty in the case is in her becoming pregnant the first time, when she had no vagina or other orifice than the meatus urinarius.†

17. *Abortion.*—A remarkable case, in which abortion was induced in eight successive pregnancies by the irritation of excessive itching of the skin, is reported by M. Maslieurat. A lady, æt. 32, became pregnant for the first time at 21, but suffered but little from the usual inconveniences of her condition, until the sixth month, when, without apparent cause, she was seized with intense pruritus of the whole surface of the body. The legs, thighs, and genital organs were first attacked; but towards the eighth month, the itching extended even to the palms of the hands and soles of the feet. The rubbing and scratching to which she was irresistibly impelled caused premature confinement, with immediate cessation of the cutaneous irritation. The patient again became pregnant, and, as before, ailed nothing till the sixth month, when the same itching returned. This time she miscarried at seven months. The same series of events occurred in all eight times.‡

18. LABOUR. *Induction of Premature Labour.*—A new plan of inducing premature labour has been suggested by M. Agostini, of Venice, which consists of making use of repeated vaginal injections of warm water, taking care to throw the stream with some force upon the os uteri. The operation is repeated every six hours, and continued for twelve minutes.§

—A paper on the induction of premature labour has also been published by Mr. Turton; but it contains no suggestion or opinion which can be considered as novel.‖

We have now reached a period in our Report in which we can avail ourselves of the extensive fund of information contained in the valuable work by Drs. Hardy and M'Clintock before mentioned. The first subject noticed by them is—

19. *Natural Labour.*—The authors use this term in the sense given to it by Denman, who considered three circumstances nesessary—1st, that the head present; 2d, that the labour be not longer than 24 hours' duration; 3d, that delivery be completed without artificial assistance. The management of such labours being familiar to all, they do not enter at any length upon the subject. They, however, think it necessary to make a few observations on the *use of the binder*, and on *supporting the perineum.*

In the Dublin Lying-in Hospital the binder is considered indispensable. The authors consider that its use promotes the expulsion of the after-birth, and state that in one instance only, during the period embraced in their report, was it necessary to pass the hand into the uterus for its removal.

* Prov. Medical and Surgical Journal, April 19, 1848. † Brit. Record, No. 1.
‡ Gazette Médicale, 15 Mars, 1848. § Annales de Thérapeutique, Mars 1848.
‖ Prov. Med. and Surg. Journal, Dec. 15, 1847.

In guarding the perineum, the authors warn the young practitioner against commencing the support too soon, in his over-anxiety. While the perineum is thick and hot, no benefit is derived, but rather the reverse. At this time the authors advise that it be well fomented with a sponge and warm water.

After-pains are treated by a full anodyne at bedtime, with castor oil and turpentine in equal proportions in the morning. If they resist this, a turpentine stupe is had recourse to. The authors verify an observation of the late Dr. Joseph Clarke, that women who suffer from severe after-pains are often the subjects of dysmenorrhœa.

The total number of natural labours embraced in the report is 5852, of which 1752 were first pregnancies. The deaths were 16. The chapter contains the reports of 29 cases of more or less interest, including cases of puerperal phlebitis, phlegmasia dolens, erysipelas of the labia, &c.*

20. *Tedious and Difficult Labour.*—Drs. Hardy and M'Clintock arrange their remarks on this subject under two heads, according as the delay takes place in the first or second stage of labour. This division is practically important in reference to prognosis; for the danger, in the first case, supposing the membranes to be unbroken, is inconsiderable, compared to what it is in the second.

In all cases of tedious labour, during the first stage, which have come under the authors' observation, the cause is stated to have been almost invariably a rigid os uteri. This condition was also seen to be more common in primiparæ, and in those in whom the membrane had been early ruptured. The treatment of rigid os uteri, followed in the Dublin Lying-in Hospital, consists chiefly in the exhibition of tartar emetic, venesection, and the warm bath. In point of efficacy, the authors consider bloodletting entitled to the first place; but it is not of so general application as tartar emetic. The patients on whom it was employed were generally robust females with full pulse, the os uteri thin, and the head pressing continually upon it. In such, venesection produced rapid benefit.

Tartar emetic is, however, considered the most generally available, and was given in almost every case in the following form:

℞. Ant. potass tart. gr. ij.
Aquæ destillata, ℥vj.
Tinct. opii, ℈j. M.

Of this a tablespoonful is given every hour, until nausea and vomiting are induced. As it is of importance that labour should be actually commenced before tartar emetic is exhibited, it was not given until dilatation of the os had actually commenced. In doubtful cases bleeding was preferred.

Of opium in spurious pains the authors state that it was never given, unless the spurious character of the pains was distinctly made out, and then not until the bowels had been freely relieved.

The warm bath was not used, unless the other means had failed in inducing relaxation, and not then, if the debility was great, or there was any tendency to hemorrhage. The authors think, from the evidence afforded by two cases, that the warm bath occasionally injures the fœtus.

Of the exhibition of *ergot* in tedious labours, the authors state that the cases in which it was employed may be arranged in three classes. The first includes cases in which the delay arises from uterine inertia, and where, though the head ceases to advance, there is no disproportion between it and the passages. These are the cases which the authors consider most favorable for ergot, and it is with reluctance that they give it in any other, for they are

* Op. cit. pp. 6-75.

convinced that unless the child be delivered within a certain time after its exhibition, it will undoubtedly perish. The time during which it is safe to act can only be determined by auscultation; but on this subject we cannot do better than refer the reader to a paper by Dr. Hardy, which is to be found in a former Volume. ('Abstract,' Vol. I, p. 172.)

The second class of cases embraces those cases in which the fœtal head is arrested without any pelvic deformity to account for it. The third includes those instances in which unfavorable symptoms calling for delivery manifested themselves while the fœtal heart was still audible, but where the forceps or vectis were inadmissible, from want of space, and from the state of the soft parts being such as would render their employment hazardous, exposing the patient to the risk of laceration and sloughing.

The dose of ergot usually employed by the authors is half a drachm of powder, infused in a small cupful of boiling water for ten minutes, to which, after straining, ten grains more of the powder were added.

The next point connected with tedious labour which the authors touch upon is the use of instruments, premising what they have to say upon the subject by some valuable observations on the general importance of obstetric auscultation, and its particular applicability to the questions in debate.

Vectis.—This instrument was often substituted for the forceps, and was applied strictly in accordance with Denman's directions. Where internal action had entirely ceased, and in certain convulsive cases, the forceps was preferred.

Forceps.—The short straight forceps has been exclusively used in the Dublin Lying-in Hospital for a period of seven years. The conditions which were supposed to call for its use are stated to be these:—

1st. That the child be alive; when the child is dead the forceps is never employed.

2d. That the head remain stationary within reach of the forceps for six hours at least.

3d. That the membranes be ruptured, and the os uteri fully dilated,

4th. That the ear can be distinctly felt; this the authors consider to be an essential condition for the safe and successful application of the instrument.

5th. That the state of the soft parts denotes the absence of inflammation.

The long forceps was seldom or never used. The occasions on which the perforator and crotchet were employed may be surmised from the tenor of the authors' remarks on auscultation, ergot, and the forceps.

The total number of tedious labours included in the report are 259; of these 173 were delivered without instruments; of this number 30 took ergot, on account of uterine inertia in the second stage of labour, and only 10 out of the 30 children were born alive; this, as the authors remark, furnishes strong proof of the deleterious influence of ergot upon the fœtus, as in nearly every case there was unequivocal evidence of the child's vitality when it was given, and in the great majority delivery took place within two or three hours after its exhibition.

In 52 cases the perforator and crotchet were used; in 18 the forceps; in 16 the lever, or vectis.

Of the 259 women, 22 died, 19 of which were primiparæ.

This section, like the last, is followed by the narrative of the most interesting cases which presented themselves during the period embraced by the Report.*

—A case of tedious labour, from complete ossification of the bones of the fœtal cranium, occurred recently in the practice of Mr. Gosset, by whom it is

* Op. cit. pp 73-161.

recorded. Turning was attempted, but, as the head could not be extracted, it was perforated through the mouth, and broken up. The mother died of phlebitis.*

21. *Preternatural Labours.*—Drs. Hardy and M'Clintock's practice in breech and footling presentations is to leave the entire business to Nature until the child is expelled as far as the umbilicus, or, if the breech is the presenting part, until the feet have cleared the os externum; this plan insures a more full dilatation of the parts. The funis is next drawn down, and if pulsating strongly, or, if putrid, they wait for a pain, in order that the shoulders may enter the brim before they attempt to bring down the arms. In doing this they always disengage the arm next the pelvis first, and in other respects follow the usual directions laid down by authors. At the close of the process, however, they vary somewhat from the ordinary practice, for instead of simply extracting the head with the right hand, the occiput is at the same time steadily pushed up with the index finger. This is a practice which, though fully appreciated by Smellie, has been overlooked by later writers. The object of the manœuvre, together with that of depressing the chin, is to bring the head into the most favorable position for passing through the pelvis, by causing the occipito-bregmatic to be the moving diameter, and thereby to obviate delay. In cases of premature birth, the authors do not interfere with the arms.

The total number of preternatural presentations met with in the Hospital were 227, of which 101 were breech. Of these, 37 children were born dead, and three of the mothers died.

Respecting arm and shoulder presentations, the authors' remarks are brief. They deprecate the practice of turning in cases of great difficulty, and where the child is clearly ascertained to be dead; and recommend evisceration and delivery by the crotchet in preference. They have seen much benefit from the relaxing effect of tartar emetic in some cases, given in quarter-grain doses. It is, indeed, their usual practice, in all such cases, to give it before the os is fully dilated, to favour dilatation and constant uterine action. The authors' remarks on the operation of turning we shall give at a future page.*

22. *Complex Labours.*—Under this head Drs. Hardy and M'Clintock comprise hemorrhage, convulsions, rupture of the uterus, plurality of children, and funis presentations.

23. *Accidental and Unavoidable Hemorrhage.*—The authors insist upon the importance of an accurate acquaintance with the distinguishing characters of these forms of uterine hemorrhage. The essential difference, as usually laid down, depending on the site of the placental attachment, does not, in the authors' opinion, always point out a corresponding difference in practice, nor is it always easy to distinguish between the two at the commencement of the bleeding. In doubtful cases, the authors have sometimes been materially assisted by auscultation, the placental bruit indicating the locality of the placenta; but these cases are admitted to be exceptional. They allude to two signs pointed out by Gendrin as indicative of unavoidable hemorrhage, namely, pulsation at the os uteri, not synchronous with the maternal pulse, but with the rapid beats of the fœtal heart, and the impossibility of producing ballottement. For the first of these they have no confidence, but they have on several occasions recognised the latter.

In the treatment of accidental hemorrhage before delivery, the authors rely upon the established practice of puncturing the membrane, if the discharge of blood resists ordinary means. After this has been done, and the bleeding checked, they consider it an advantage that labour should be postponed if the

* Lancet, Jan. 8th, 1848. † Op. cit. p. 190.

woman be much exhausted, and they have given a full opiate with much benefit.

24. *Unavoidable Hemorrhage.*—Before the os uteri is sufficiently dilated to allow of delivery by turning, the authors have recourse to plugging the vagina, from which, when properly performed, they have derived the best results. Of materials generally employed for this purpose, they give the preference to a silk pocket-handkerchief dipped in oil. They caution the practitioner against leaving the plug in longer than twenty-four hours, and during its retention they insist upon the necessity of paying attention to the state of the bladder, &c.

Of turning in placenta prævia, they advise, in common with the best authorities, that no attempt should be made until the os is sufficiently dilated to offer no material impediment to the hand.

25. *Expulsion of Placenta before the Child.*—The authors have had no experience of Drs. Simpson and Radford's plan of extracting the placenta before the child, but by the tenor of their remarks they are evidently unfavorable to it.*

26. *Opium in Uterine Hemorrhage.*—The remarks of Drs. Hardy and M'Clintock on this point are full of practical interest. They lament, with justice, that practitioners appear to have no fixed principles to guide them in the administration of this drug, and that such opposite opinions are entertained respecting its utility. The perplexity attending the expression of such different opinions as have been recorded may, the authors believe, be greatly removed, by bearing in mind the following uses which opium is qualified to fulfil:—First, it is capable of acting as a powerful general stimulant, and supporting life under circumstances of extreme collapse; for this large doses are required. Secondly, opium possesses the power of arresting uterine contraction, for which purpose it must be given in doses above the ordinary strength. From a consideration of these properties, and a practical knowledge of its effects, the authors state that, in unavoidable hemorrhage it holds out a prospect of benefit when there has been an alarming loss of blood before the state of the os admits of turning. In this kind of case the opium, they observe, acts in two ways—by recruiting the patient's strength, and by diminishing the hemorrhage, by suspending uterine action.

Another case, in which the authors have noticed the advantage of opium, is when the os uteri is fully dilated; but the prostration is so great that there is a dread of further interference. In such a case, a full dose of opium quiets the patient, and, by allowing time to give nourishment, contributes to the rallying of her powers.

The number of cases of uterine hemorrhage embraced in the Report is 37, of which 8 were unavoidable. (pp. 191-203.)

27. *Hemorrhage after Delivery—Preventive Treatment.*—When a predisposition to post-partum hemorrhage is known to exist, a certain course of preventive treatment is adopted at the Dublin Lying-in Hospital, which is described by Drs. Hardy and M'Clintock under three heads, viz. maintenance of a quiet state of the circulation at the time of delivery; a judicious management of the second stage of labour; and, lastly, under certain circumstances, the exhibition of ergot. Of the latter of these, the author remarks that it is most efficacious, and that it may be given at one or other of these periods, viz. when the head of the child is on the perineum, and about to be expelled; immediately after the head has cleared the os externum; and, thirdly, as soon

* Op. cit. pp. 200 *et supra.*

as the insertion of the cord can be felt. Dr. Johnson, a former physician of the Dublin Hospital, prefers the latter time.

Of hemorrhage between the birth of the child and the expulsion of the placenta, the authors consider it unnecessary to speak at any length in respect of the causes—their treatment is to grasp the uterus externally, and thus assist it in expelling the placenta; they prefer this to the endeavour to extract the placenta by introducing the hand. They, however, admit that in some cases the hemorrhage may be so profuse as to render the latter proceeding necessary, as the quietest way of emptying the uterus.

Hemorrhage after the expulsion of the placenta is almost always referable to a want of contraction of the uterine fibres, from atony, or the distension of the organ by clots, and in some rare cases from polypoid growths, &c. In the treatment of hemorrhage at this period, the chief means mentioned by the authors are friction and pressure, the application of cold, ergot, and electro-magnetism, and the introduction of the hand into the uterine cavity.

Of pressure, they speak in high terms of commendation. The pressure is to be kept up steadily, taking care, if for the purpose of extruding clots, to get the edge of the hand *behind* the fundus, and to press *downwards* and *backwards.*

Cold is applied by them by dashing a wet towel on the pudenda, nates, and sacrum; they agree with Dr. Lee, that this means is as efficacious, and less objectionable, than pouring cold water from a height upon the naked abdomen. They have also seen benefit from cold enemata; of cold injections into the womb they have had no experience.

Ergot of rye is extensively used in the Dublin Hospital in this form of hemorrhage; but the authors have found that, from its depressing influence, it is not admissible when the patient is much reduced.

Of introduction of the hand into the uterus, the authors remark that it is dangerous in two ways—first, it may extinguish life if the woman be much exhausted; and, secondly, it renders her very liable to be attacked by phlebitis. Dr. Lee entertains the same opinion, and expresses himself still more strongly.

Electro-magnetism is favorably spoken of, as far as the authors' experience warrants them in forming an opinion. The readers of the 'Abstract' are, doubtless, fully prepared to admit the powers of this agent, from the testimony of Dr. Radford, Mr. Dorrington, and others, to whose papers we refer them. (See Vol. I, p. 159, &c.)

In the fulfilment of the second indication, that of sustaining the powers of life, the authors' observations respecting the case of stimulants and opium, regulations of the temperature, &c. are eminently judicious.

They make no mention of transfusion, which, we are disposed to think, should always be resorted to when other means fail. Our Extracts contain a very instructive example of its success. (Art. 88.)*

—While on the subject of uterine hemorrhage, we may direct our reader's attention to an elaborate essay by Mr. Newnham,† which we shall reproduce in our next Volume, and also to cases by Mr. Griffin‡ and Mr. Christie.§

28. *Spontaneous Evolution.*—Two or three additional instances of spontaneous evolution of the fœtus have been put on record subsequently to the date of our last Report.

—Mr. Edwards relates the case of a female, to whom he was summoned in her third labour. On examination, the os uteri was found to be fully dilated, and the arm of the child protruded from the vagina. He proceeded to turn, but

* Op. cit. p. 234. † Brit. Record, No. 5. ‡ Ibid. Nos. 5 and 7. § Ibid. No. 11.

the feet could not be brought down, in consequence of the vehemence of the uterine contractions. Under these circumstances, as symptoms of exhaustion began to declare themselves, it was resolved to use the perforator; but, before the instruments could be got ready, the woman passed a large quantity of fæces, and immediately the arm disappeared, and the breech presented. Two or three pains expelled the child, which had evidently been dead some time.*

—Dr. Copeman relates an instructive case of back presentation, with partial spontaneous evolution, which we give considerably condensed. The woman was a delicate person, suffering under mental anxiety, and fearing, from her unusual sensation, that the presentation was not natural. On his first visit, Mr. Copeman could not make out the presentation; but some hours after ascertained that the back was the presenting part, without, however, being able to determine the position of the head or extremities. While preparing to turn, he was surprised to find the back of the neck and shoulders forced into the pelvis. Fearing now that turning would be difficult, he endeavoured to pass his hand over the right side of the child towards the pubes; but while doing so he felt the child recede, and therefore contented himself with raising the pelvis, while the pains forced down the occiput. He thinks, with apparent justice, that had he waited longer the evolution would have been completed without assistance. The case terminates with some excellent practical remarks, for which we have not space.†

—A third case is related by Mr. Ion;‡ a fourth, by M. Boureau;§ a fifth, by Mr. Davies;‖ and a sixth, by Dr. Borrett.¶

—Drs. M'Clintock and Hardy state that they have never witnessed the process of spontaneous evolution, as described by Denman, but they have seen several instances of premature births, in which arm presentations were born by the unaided efforts of Nature. In two or three of these cases, the arm remained stationary till after the birth of the breech and legs; in the others, the fœtus was expelled doubled on itself, but the arm did not recede; so far confirming Dr. Douglas's views of the manner in which the process is brought about.**

29. *Retained Placenta.*—The introduction of the hand for the removal of the placenta is justly regarded by Drs. Hardy and M'Clintock as a proceeding not to be adopted without imperative necessity, and, in hospital practice more especially, often productive of fatal consequences. These authors differ from those who recommend the exhibition of ergot in delay of the placenta. In the Dublin Hospital it was their invariable rule not to exhibit this medicine in the third stage of labour, until the placenta was completely detached. Their reason for this is the impossibility of diagnosing, in each instance, the precise cause of the retention; and, under some circumstances, the action of the medicine would only aggravate the case.

From the great liability to the occurrence of phlebitis after manual extraction of the placenta, it is usual, in the authors' practice, to put the patient under a mild mercurial course immediately after delivery. If any bad symptoms occurred, this was followed by increased activity; but if nothing unfavorable appeared on the third day, the mercury is omitted. This strikes us as a practice worthy of further publicity.

—A case in which the placenta was retained five months is reported by Dr. Hitchcock, in the 'Boston Medical and Surgical Journal.' The woman aborted at six months; but, on account of some misrepresentation on the part of the attendants, the after-birth was not removed. From this time she

* Lancet, Jan. 8, 1848. † Brit. Record, No. 5. ‡ Lancet, Jan. 29.
§ Encyclograph. Méd. Feb. 1848. ‖ Brit. Record, No. 7. ¶ Ibid. No. 9, 1848.
** Op. cit. p. 183.

had repeated hemorrhages; and when seen by the narrator of the case was greatly exhausted. Suspecting either polypus, or, from the history of the case, that the placenta had been retained, he examined, and found the latter surmise to be correct, by removing a condensed placenta of a pound in weight.

30. *Rupture of the Uterus.*—Drs. Hardy and M'Clintock's chapter on this complication of labour is worthy of the most careful perusal. They commence with the premonitory signs of the accident, which are thus laid down. The possibility of rupture of the uterus may be suspected—

1st. When there are grounds for suspecting the existence of deficiency of space in the hard passages.

2d. When a fixed local pain has existed for any length of time during pregnancy, it should be viewed with apprehension, as Dr. Murphy has ascertained that rupture of the uterus may, in most cases, be traced to lesions already existing, or induced by inflammation.

3d. When, during labour, there are constant and violent uterine efforts after rupture of the membranes, without a corresponding advance of the fœtal head. The authors believe that rupture never takes place previous to the escape of the waters.

4th. The occurrence of a crampy pain in the hypogastrium is looked upon by Mr. Roberton as a sign of considerable value.

In the management of threatened rupture, the authors endeavour to mitigate the violent uterine action by a full bleeding, followed by an opiate. Tartar emetic is also sometimes given.

The symptoms which indicate rupture of the uterus are—

1st. A sudden acute pain, totally different from labour pains.

2d. Vomiting of the ingesta, and subsequently of coffee-ground liquid. When this happens, it comes on suddenly, and is accompanied by other signs of ruptured uterus.

3d. Collapse, as in rupture of other internal organs. This, the authors remark, is not an invariable symptom; and they record a case in which the patient walked up stairs into the ward after riding some distance.

4th. A distended and painful state of the abdomen.

5th. Sudden cessation of labour-pains. This does not always ensue, as in some cases the child has been expelled by natural efforts after the rupture has taken place. On the other hand, the labour-pains are known to subside suddenly from various causes.

6th. Hemorrhage from the vagina. This symptom is not regarded as worthy of confidence as diagnostic.

7th. Recession of the presenting part. This they believe cannot take place to any extent, unless rupture has taken place.

8th. The limbs of the child discernible in the peritoneal cavity. When present, the authors state that this sign is demonstrative; but it may be absent, as the fœtus may not escape in some instances.

The fact that the fœtus almost invariably perishes soon after the accident also furnishes a source of diagnosis. If in a doubtful case the fœtal heart is audible some time after the supposed rupture, it may be considered to negative the supposition. An instructive case in point is related.

The treatment of ruptured uterus is divided into two periods, viz. before and after delivery. Respecting the former, the authors' observations are, for the most part, in accordance with generally received authorities, viz. to deliver as speedily as possible. As the child is generally dead, perforation is preferable to the forceps. In the after-treatment they trust to opium.*

* Op. cit.

—Cases of rupture of the uterus have recently been reported by Dr. Coley,* Mr. Brownhill,† and by Dr. Smallwood‡ (U. S.). Dr. Coley's patient recovered; the other two were fatal, the latter after four days.

—An elaborate essay is in the course of publication by Dr. Trask, in the 'American Journal of the Medical Sciences,' and Dr. Clay is engaged in reprinting the well-known and important memoir on the same subject by Crantz. We shall give some account of both these in our next volume.

31. *Operative Midwifery—Cæsarean Operation.*—We have two successful cases of this severe operation to record: the first by Mr. Goodman, the details of which, though it occurred some time back, have only recently been made public; the other is narrated by Dr. Valentin Mayer.

Mr. Goodman's case is prefaced by some remarks on the history of the operation, and a table, which we give (p. 330), of all the instances of the operations performed in the British Islands, with their results.

The extreme fatality of the Cæsarean operation is strongly shown in the table, from which it appears that three mothers only recovered, and but one child. The case of Mrs. Sankey is as follows:—

She was the mother of three living children, subsequently to which she became the subject of mollities ossium. Her general health, however, was kept good, and she was cautioned against becoming again pregnant. This injunction was not attended to, and Mr Goodman, in November 1845, received notice that labour had commenced. Examination proved the pelvis to be contracted to a formidable extent, the promontory of the sacrum being propelled downwards, so as to diminish the antero-posterior diameter, and the ischia having become so nearly approached, as together to produce on the outlet the figure of 8. The principal passage was discovered to be seated superiorly between the promontory of the sacrum and the converging ossa ilia; and its greatest diameter from one projection of the bone to another was not more than one inch and a quarter; the least, not more than one inch; and these could only be reached by the finger with the greatest difficulty. The os uteri could not be touched by any manipulation. The remaining passage was contracted to about three quarters of an inch; and the external outlet was also considerably diminished by the junction of the ossa ilia. Having fully explained to the husband the true nature of the case, and impressed upon him the utter impossibility of effecting delivery by the natural means, and that the only chance of saving the life of either the mother or the child was by resorting to the Cæsarean section, Mr. Goodman suggested the propriety of procuring a second opinion for the purpose of corroborating his statements, and Dr. Radford was accordingly fixed upon.

Upon Dr. Radford's arrival, and after due preparations had been effected, Mr. Goodman proceeded to make the necessary incisions, about 3 a.m. The outer integument was divided by an incision of about nine inches in length, passing a few lines on the left side of the linea alba and umbilicus. This being effected, the uterus was freely and fully exposed, and he immediately made an incision in its walls to the extent of the former opening; the margin of the placenta was ascertained to correspond with the incisions. Dr. Radford seized the infant whilst he dislodged the head from the uterine cavity; and thus a fine living child was preserved from certain death.

The placenta was removed as rapidly as possible, and by moderate pressure he succeeded in reducing the uterus to its proper locality.

The disarranged intestines were restored to their normal position by Dr.

* Brit. Record, No. 11. † Prov. Jour., Dec. 29. ‡ Brit. Amer. Jour., Jan. 1848.

TABLE OF THE CÆSAREAN OPERATIONS PERFORMED IN THE BRITISH ISLANDS, WITH THEIR RESULTS.

No.	Hours in Labour.	Date.	Died Mother.	Died Child.	Recovered Mother.	Recovered Child.	Operator.	Patient's Name.	Locality.	Where recorded.
1	12 days . .	1739	...	Dead .	Recovered	......	Mary Dunnally	Alice O'Neal ...	Ireland	Edinb. Med. Essays, vol. v.
2	5 days . .	1793	...	Dead .	Recovered	......	Mr. Barlow	Jane Foster ...	Blackburn ...	Med. Rec. and Research.
3a	...	"	...	Alive .	Recovered	Alive	Mr. Knowles	....	Birmingham	Trans. Prov Asso., vol. iv.
4	...	1845	...	...	Recovered	Alive	Mr. Goodman	Mrs. Sankey ...	Manchester .	Brit. Rec of Obstetricy, vol. i, and Medical Times.
5	7 days . .	1737	Dead . .	Dead .	....	......	Mr. R Smith.........	Paterson.........	Edinburgh ...	Smellie's Midwifery, vol. iii.
6	...	"	Dead . .	...	....	Alive	Professor Young ...	....	" "	MSS. Lectures.
7	...	...	Dead . .	...	....	Alive	Professor Young ...	....	" "	MSS. Lectures.
8	...	1740	Dead . .	Dead .	....	......	Dr. White	....	Manchester .	Hull's First Letter.
9	...	"	Dead . .	Dead .	....	......	Mr. Wood	....	Edinburgh ...	Hull's First Letter.
10	24 hours .	1769	Dead . .	...	....	Alive	Mr. Thompson	M. Rhodes......	London	Med. Obs. and Enq., vol. iv.
11	2 days . .	1774	Dead . .	...	....	Alive	Dr. Cooper	Eliz. Foster ...	" "	Ditto ditto vol. v.
12	12 days . .	"	Dead . .	...	....	Alive	Mr. Chalmers	Eliz. Clarke ...	Edinburgh ...	Hamilton's Outlines, p. 339.
13	...	1775	Dead . .	Dead .	....	......	Mr. White	....	Glasgow	Hull.
14	3 days . .	1777	Dead . .	...	....	Alive	Mr. Atkinson..... ...	E. Hutchison .	Leicester......	Hull, p. 67.
15	8 days . .	"	Dead . .	Dead .	....	......	Mr Clarke........ ..	....	Wellingboro'	Mem. Med. Society, vol. v.
16	12 hours .	1794	Dead . .	...	....	Alive	Dr. Hull..............	Isb Redman ...	Manchester .	Hull's First Letter, p. 162.
17	10 days . .	1798	Dead . .	Dead .	....	......	Dr Hull..............	Ann Lee.........	" "	Ditto ditto p. 172.
18	2 days . .	1795	Dead . .	...	....	Alive	Dr. Hamilton.........	J. Douglass......	Edinburgh ...	Outlines.
19	3 days . .	1798	Dead . .	...	....	Alive	Mr Kay..............	....	Forfar	Hull's Letter.
20	...	1799	Dead . .	...	....	Alive	Mr. Wood	E. Thompson...	Manchester .	Mem. Med. Society, vol. v.
21	...	1800	Dead . .	...	....	Alive	Mr. John Bell	....	Edinburgh ...	Med.-Chir. Trans., vol. iv.
22	...	"	Dead . .	...	....	Alive	Mr. Dunlop	S. Holt	Rochdale ...	Hull's Trans. Band.
23	...	"	Dead . .	Dead .	....	......	Mr. Wood	....	Manchester .	Med. and Phys. Journal.
24	24 hours .	"	Dead . .	Dead .	....	... ..	Dr. Kellie	....	Leith	Ed. Journal, vol. viii.
25	...	"	Dead . .	Dead .	....	......	Mr. K. Wood..	....	Manchester .	Med.-Chir. Trans., vol. vii.
26	...	1817	Dead . .	...	....	Alive	Barlow and Cort ...	A. Hacking......	Blackburn ...	Barlow's Essays.
27	...	1821	Dead . .	...	....	Alive	Barlow and Dugdale	M. Ridgdale ...	" "	Merriman, p. 317.
28	18 hours .	"	Dead . .	...	....	Alive	Dr. Henderson	Mrs. Lowe	Perth	Ditto ditto.
29	34 hours .	1820	Dead . .	Dead .	....	......	Dr. Radford	M. Ashwell......	Manchester .	Edinb. Journal, No. 148.
30	19 hours .	1821	Dead . .	Dead .	....	......	Dr. Radford	M. Nixon	" "	Ditto ditto.
31	6 days . .	1826	Dead . .	...	....	Alive	Mr. Chrichton	....		Edinb. Journal, 1828.
32	...	1829	Dead . .	Dead .	....	......	Dr M'Kibbin	....	Belfast	Ditto 1831.
33	...	"	Dead . .	Dead .	....	... ..	Mr. Ward	....	" "	Lancet, 1840.
34	...	1834	Dead . .	Dead .	....	......	Dr. Montgomery ...	....	Dublin.	Dublin Journal, vol. vi.
35	...	1843	Dead . .	Dead .	....	......	Dr. Elliot	....	Waterford ...	Letter to Dr. Churchill.
36b	...	"	Doubtful	Alive .	....	......	Mr. Whitehead	....	Manchester .	Ditto ditto.
37	...	"	Dead . .	Dead .	....	......	Mr. Braid	....	" "	
38	...	"	Dead . .	...	....	Twins living	Bailly and Hardy ...	....	....	Manuscript to be published.

Radford, whilst the external wound was closed with the interrupted suture, without attempting the application of any ligatures to the uterus. It is scarcely necessary to state, that the ordinary dressings of adhesive plaster and bandage were applied. In an hour or two it was perceived that a portion of intestine protruded between two of the sutures, which was immediately and carefully reduced. On the following day the symptoms were by no means severe, the pulse being 90, tongue clean, skin moist, and the urine evacuated; had some sleep, and the infant was doing well. On the 21st, no alvine evacuation had occurred, but there was vomiting of a black and coffee-coloured fluid. An enema of spir. terebinth. and gruel was given, and not acting, was followed by a magnesia draught, which had the desired success.

The patient's state on the 23d, the second day after the operation, was satisfactory, but the sutures gave way, and exposed the intestines to an extent of six inches; these were speedily covered with lymph, and granulation commenced, and the wound was again brought together. Things progressed favorably till December 6th, when, from imprudently taking some ingesta, which gave rise to flatulence, the adhesions gave way a second time, and bowel protruded. This portion became much distended, and symptoms of strangulated hernia ensued, which were only relieved by the formation of artificial anus.

This untoward complication now occupied all the attention of the patient and her attendants, and many plans were fruitlessly adopted to induce its obliteration. Under a contrivance by Mr. Goodman, it had, however, materially contracted in its dimensions, when, to his grief, it was discovered that the unfortunate woman was again pregnant.

We shall not follow the author through his reflections under this calamity, but content ourselves with the remark, that the course ultimately adopted scarcely required the amount of deliberation apparently bestowed upon it, as but one plan, that of inducing abortion, could be entertained; a second Cæsarean operation being out of the question. For this purpose, ergot, savine, &c., were administered, without inducing uterine action, which, however, ensued spontaneously a month after the discontinuance of the medicines, and a fœtus of two months was aborted. The placenta was retained until the third day, and was then removed in a putrid state by the use of some force. Under these circumstances, it is not a matter of surprise that the woman died with symptoms of uterine inflammation.

Post-mortem examination.—On inspecting the body, an orifice, the size of a pin-point, was discovered in the situation of the original wound, and the linen around it was moistened by about six drops of slightly coloured serous fluid. On opening the abdomen, a general glueing and matting together of the arch of the colon and omentum to the adjacent intestines (in an area of the extent of eight or nine inches), and to the cicatrized skin of the abdomen, was observed; which, as will be remembered, was developed from, and healed upon, the exposed peritoneal covering of these viscera. Much flatulent distension of the colon existed, and it was fully proved that no Cæsarean section could have been again performed. The agglutination of the parts through which the incision must have penetrated, rendered the performance utterly impossible. It would have been necessary (as it was in simply opening the body after death) to have dissected the skin from the subjacent omentum; and the dissection must have been continued until the whole of this latter had been completely separated from its adhesions to the smaller intestines; and they, also, would have required separating from each other, before the uterus could have been exposed. Fatal as the case had proved, we could not avoid a feeling of satisfaction that the measures adopted had been directed towards

the induction of abortion, instead of reserving the mother for an operation, which would have proved fatal in the very hour of performance. The gall-bladder and duodenum were distended with black bile; and the uterus was empty, and considerably congested at its fundus. The cicatrix of the original incision into the uterus was well defined, and there was no adhesion of the fundus to any adjoining viscera. There were no other decided marks of inflammatory action.*

—Dr. Mayer's case is that of a female, æt. 29, who had for some time experienced a pain in the sacral region, particularly at the menstrual periods. A tumour was discovered attached to the sacrum which encroached upon the vagina and rectum. She was lost sight of from this time until January 5, 1846, when she came back to the hospital in the eighth month of pregnancy. She was again examined, and the tumour found to have enormously increased, filling the vagina, and pushing the perineum outwards; the outlet was also occupied by a continuation of the tumour; the os uteri could with difficulty be felt under the pubes.

Under these circumstances, when labour commenced, the Cæsarean operation was resorted to as the only resource. The infant was extracted alive, the other steps of the operation were satisfactorily performed. The woman went on favorably until the 29th day, and was considered safe as regarded the operation, when she was seized with acute pain in the sacral region. The vaginal tumour increased rapidly, and was distinctly ascertained to be cancerous. From the effects of this she sunk on the 145th day after the operation.†

32. *Turning as a Substitute for Craniotomy in Contracted Pelvis.*—We gave a brief outline of Dr. Simpson's recommendation of this substitution in our last Report. We have here the opportunity of referring to it more in detail, as given in a series of papers published in the 'Provincial Medical and Surgical Journal,' and the great advantage afforded by the proposed practice, is stated to be the substitution of extraction of the infant by the feet, for its extraction by the crotchet; the delivery of it by the hand of the accoucheur, instead of by instruments; the lateral compression of the head by the sides of the pelvis, instead of the more dangerous oblique or longitudinal pressure by the forceps; and, above all, the transient and not necessary fatal depression of the flexible skull, for the deadly perforation of it. In the first two sections of his long essay, Dr. Simpson records the cases, and affords evidence suggestive of the proposed practice, chiefly based upon the fact, that in certain instances of labours in which all the children presented by the head were lost, a living child has been born when it presented footling.

The reason of this he next examines in a chapter on the "Principles of the Proposed Practice," in which he enters with minuteness into certain details respecting the conical form and particular admeasurements of the fœtal cranium. His observations are recapitulated in the following conclusions:

1st. The fœtal cranium is of a conical form, enlarging from below upwards, and when the child passes as a footling presentation, the lower and narrower part of the cone-shaped head is generally small enough to engage in the contracted brim.

2d. The hold which we have of the protruded body of the child after its trunk and extremities are born, gives us the power of employing force sufficient to make the elastic sides of the upper and broader portion of the cone, the bi-parietal diameter of the cranium becomes compressed, and, if necessary, indented between the opposite sides of the pelvic brim, to such a degree as will allow the passage of the entire head.

* Brit. Record, Nos. 4 and 6; and Medical Times, May 10th.
† Thèses de Strasbourg, No. 7; Archives Générales, Mars 1848.

3d. The head, in being dragged down into the distorted pelvis, generally arranges itself, or may be artificially adjusted, so that its narrow bi-temporal instead of broad bi-parietal diameter becomes engaged in the most contracted pelvic diameter.

4th. The arch of the cranium is more readily compressed into the flattened form by having the former applied, as in footling presentations, directly to its lateral surface, than as in cephalic presentations to the lateral and upper surfaces of the arch.

5th. The duration of labour, and the sufferings of the mother, are greatly abridged by turning, when used as an alternative for craniotomy and the long forceps. The truth of the latter proposition is shown in the fourth section.

In the fifth section, Dr. Simpson considers the relative periods of labour at which the long-forceps, perforation, and turning are respectively employed, and shows that as the mother's danger, as well as that of the child, increases with the duration of the labour, and that the circumstances which are considered to justify the use of perforation more especially, do not concur until a late period, while turning is justifiable at an early period. The latter is, on this account alone, a preferable substitute, and still more so that it gives the child a chance of life, which is to a certainty abolished by craniotomy. In order to exhibit these particulars, Dr. Simpson narrates two cases from the practice of Dr. Lee, and seven from that of Dr. Collins.

In the sixth section, Dr. Simpson's object is to demonstrate that the indentation produced by forcible extraction of the fœtal head through a contracted pelvis, is not incompatible with life, the establishment of this point being necessary to the argument. This he does by the relation of several cases.*

[We had arrived thus far in our analysis of Dr. Simpson's essay, when we found that it had not been completed. Under these circumstances, we are compelled to stop somewhat abruptly, but shall not fail to give the remainder as soon as it appears. Anything which can obviate the necessity for the barbarous operation of craniotomy, must be acceptable to the heart of the feeling practitioner in midwifery; and to have a man of Dr. Simpson's experience thus coming forward in the cause of humanity, is in itself an indication, that we may reasonably hope that the day will arrive when craniotomy will be a very exceptional operation.]

33. THE PUERPERAL STATE. *Puerperal Fever.*—Drs. Hardy and M'Clintock's observations on this fatal disease, are so replete with available information, that we shall notice them at some length. They state what is now generally acknowledged, that "puerperal fever" is a complex affection; but that its most frequent pathological cause consists in uterine phlebitis. That this should be the case is not surprising, when we consider that the uterus after parturition is exposed to two of the most frequent causes of phlebitis, namely, mechanical injury of its veins, and the contact of noxious matter. In this respect, in the words of Dr. Ferguson, the interior of the uterus is in the same condition as respects the occurrence of phlebitic inflammation, as an amputated stump. The cases which most frequently determine this fatal inflammation, are stated to be:

1st. Mechanical injury to the uterus by introducing the hand, instruments, &c. No operation is more to be dreaded in hospital practice, than extraction of the placenta.

2d. The detention of portions of the after-birth, which gives rise to a foul discharge, the absorption or contact of which irritates the patient's veins.

* Prov. Med. and Surg. Journal, Dec. 1847; Jan. and Apr. 1848.

3d. Hemorrhage. Loss of blood promotes absorption, and moreover tends to induce a flaccid state of the uterus. It is thus explained why puerperal fever so often follows placenta prævia, two causes—hemorrhage, and the irritation of the hand in turning—being in operation.

4th. Epidemic influence.

The author also allows contagion in its fullest sense.

In speaking of the symptoms, the authors notice their analogy to those of ordinary phlebitis, and consisting of those indicating the local affection, and a second process characteristic of the poisoning of the blood. They consider that it is unfortunately seldom possible to pronounce with certainty on the existence of uterine phlebitis until the second order of symptoms make their appearance, although there may be sufficient ground for suspicion. The symptoms which should excite alarm are, uterine tenderness and pain, preceded by a rigor, foul tongue, depraved or scanty lochial discharge, cessation of milk, rapid pulse. Of these the *rapid pulse is the most constant*, uterine pain may be absent, or only perceptible upon deep lateral pressure, which should never be neglected in doubtful cases.

When fully developed, which it becomes without any abrupt passage from one to the other stage, the disease may be known as follows: the occurrence of rigors, not traceable to any other cause; rapid pulse; peculiar physiognomy; visible arterial action; loss of appetite; profuse perspiration; diarrhœa; sleeplessness; foul tongue; nauseous smell from the breath; muscular tremors; low delirium. Upon these symptoms the authors make the following comments:—

Rigors.—This is a characteristic symptom, but may arise from milk fever, &c. When it happens twice or oftener in the twenty-four hours, it almost unequivocally denotes phlebitis. The authors regard this symptom as one which should cause the greatest alarm in the puerperal state.

Pulse.—A short time before the rigor, the pulse usually falls in frequency. On the reaction which follows the shivering, it is considerably accelerated, but generally subsides in a few hours to its former standard. It has generally a sharp, vibrating feel under the finger. Generally, the first symptom of improvement was the subsidence of this sharpness in the pulse.

Diarrhœa and a tympanitic state of abdomen are very constant symptoms in the second stage of phlebitis. Even where diarrhœa was absent, the authors have observed an irritability of bowels which required great care in the regulation of the diet and medicine. In restraining the diarrhœa, opium in some form was found most efficacious.

Vomiting was rarely seen by the authors in pure uterine phlebitis.

Profuse sweating was a constant attendant of the second stage, towards its close.

Respecting the treatment of puerperal phlebitis, the authors properly urge the importance of early recognising the disease. The first stage is met by general and local bleeding, warm bath, and mercurialization. It will be seen by a perusal of the cases narrated by the writers, that much reliance is placed upon the latter; indeed, they observe that recovery was almost certain if ptyalism could be induced. So important do they deem this, that in all those cases in which, from the nature of the labour, or other reasons, the occurrence of puerperal fever was rendered probable, they commence with mercurial inunction a few hours after delivery.

In the second stage, the treatment can only be palliative. Mercury is now inadmissible, unless for the purpose of checking one or other of the secondary inflammations peculiar to the disease. The leading indications they

lay down are—1st, to relieve urgent symptoms, as vomiting, diarrhœa: 2d, to support strength by mild diet; 3d, to enjoin short repose of mind and body.*

34. *Causes of Puerperal Fever.*—Dr. Scanzoni considers that the opinion which attributes the occurrence of this disease to the influence of the condition of the internal surface of the uterus, is too exclusive, and maintains, as a proof of this, that the germs of the puerperal fever may be developed prior to the commencement of labour. This being the case, he seeks for the origin of the disease in the altered constitution of the blood, and as the puerperal *crasis* is developed out of that of pregnancy, he conceives that the special causes of the fever are thus determined. He mentions, in illustration of his meaning, that in those instances which, from accidental circumstances, induce some other constitution of the blood, the pregnant *crasis* is prevented; the patients are never attacked by puerperal fever, and, on the contrary, that when, during pregnancy, females become the subject of any disease which depends upon hyperinosis of the blood, they are very liable to puerperal attacks. The conclusions of this somewhat theoretical essay are to the following effect:

1st. Rawness of the internal surface of the womb is not the only cause of puerperal fever; but that this consists in a peculiar constitution of the blood. 2d. That the constitution, or *crasis*, is indicated by increase of fibrine. 3d. Hypinosis of the blood (deficiency of fibrine) gives immunity against that form of the disease which is accompanied by fibrinous exudation (puerperal peritonitis), but is no safeguard against the suppurative and typhoid forms (phlebitis). 4th. That the latter may arise from absorption of pus from the surface and appendages of the uterus, or from pus developed primarily in the blood from conversion of fibrine. 5th. That the sthenic type may verge into the asthenic during the course of an epidemic.†

35. *Post-puerperal Metritis.*—Under this term M. Cholmel has been long in the habit of describing a form of metritis, which does not manifest itself shortly after labour, as is the case with ordinary metritis, but at a period varying from eight to thirty days; the principal cause of its production being the resumption of the occupations of life prematurely, before the uterus has regained its normal volume. This organ becomes, under the influence of the metritis, much re-enlarged, while the os uteri is sensitive to the touch, tumid, irregular, and often lacerated. The treatment consists in baths and cataplasms, and laxatives in slight cases, bleeding where the pain and general symptoms require it, and afterwa[illegible]cal resolvents or exutories for the lessening the enlarged uterus.

—Dr. Willemin has furnished a very good essay on this subject. He prefers the term *simple idiopathic puerperal metritis*, inasmuch as it occasionally presents itself at a much earlier period than is understood by the term *post-puerperal;* but it is always quite distinct from that form of metritis connected with pyogenic disease. According to the analysis given of ten cases, it is shown that symptoms occurring in some of these may be wanting in others. Thus there are cases in which pain, fever, and abnormal volume are present. 2. In others there are pain and increased size, but no general reaction. 3. Neither pain nor fever is present, but there is normal volume, with sanguinolent lochia, and, in some cases, deep laceration of the os uteri. 4. The rarest form occurs when there is absence of fever and enlargement, while there is pain and sanguinolent lochia. Any of these forms may, and frequently do, become complicated with inflammation of the surrounding cellular tissue of the pelvis, producing iliac phlegmon. The disease is generally, but not always, more acute in proportion as the time elapsed since the labour is short.

* Op. cit. p. 25. † Pra. Viertelschrift; Monthly Journ. Nov. 1847.

The neck of the uterus is found to be changed in position, or not to have resumed its normal state; but the author has not observed the sensitiveness described by others. He is disposed to attach much importance to the deep *laceration* of this part observed in 4 out of 10 of his cases, and easily recognisable in one of them twenty days after labour. The sanguinolent character of the lochia is a symptom to be remarked, and when *iliac phlegmon* complicates the disease it occurs usually on the right side only. Bleeding, linseed cataplasms, and emollient clysters relieve the acute symptoms; and local applications, with, above all things, rest, suffice for the subacute form. For the iliac phlegmon, M. Rayer employs with great advantage, first, a general bleeding and purgatives, and then a large flying blister. If fever persists, he repeats the bleeding, and covers the whole hypogastric region successively with blisters.*

36. *Phlegmasia Dolens—Puerperal Mania.*—These puerperal affections are treated of in Dr. M'Clintock and Hardy's admirable volume; but as they are not characterised by any additions to our previous knowledge, we are compelled to pass them over, simply stating that, like all other subjects comprised in their observations, these are worthy of attentive perusal.

§ IV.—*Diseases of Children.*

The 'Medical Gazette' and the 'Medical Times' have continued the publication of the valuable lectures by Drs. West and Wilshire, before alluded to. Our extracts contain some of the most interesting selections from them, but beyond these and the two subjects below, we have not observed any communication of value within the period comprised in the present Report

37. *Monstrosity.*—Under the name of an "Astomatous Cyclops," Mr. Allan has described a rare species of lusus naturæ, of which the following is a description:—

"Weight of child, four pounds and a quarter; length, eighteen inches and a half; umbilicus, ten inches and a half from vertex; circumference of head, fourteen inches; from the eye, over the vertex, to the occipital protuberance, fourteen inches. The head had the usual quantity of hair, but there was only one eye, very vivid and protruding, in the centre of the face; its upper lid was natural, and furnished with eyelashes, whilst the lower was triangular, its apex pointing downwards to the base of a fleshy cylindrical excrescence, an inch and three quarters in length, and one inch and a half in circumference, strongly resembling a penis (proboscis) situated beneath the eye. A bone similar to a digital phalanx could be felt in the upper half of his body, and a probe could be passed an inch into a canal at its rounded or free extremity. A little below this, and in the ordinary situation of the mouth, the two ears were placed, their cartilages being very perfect, and the helices pointing outwards, whilst their anterior aspects or tragi were separated from each other by a small eminence in the median line, a quarter of an inch in breadth. The meatus auditorii communicated transversely with each other, as well as with the pharynx, by apertures of the tenth of an inch in diameter. There was not the slightest trace of a mouth, of jaw-bones, or of tongue. The pharynx terminated upwards at the base of the skull, and the vocal organs were perfect. The lungs had never been inflated, and the large intestine was filled with meconium. The parietal bones were separated two inches and a half at the

* L'Union Médicale, No. 151; Gaz. Méd., 8 Fev. 1848; Brit. and For. Med.-Chir. Rev., No. 2.

sagittal suture, and the cavity of the cranium contained sixteen ounces of clear serum (coagulable by heat and nitric acid); meninges very vascular. There was no frontal bone, but its place was occupied by a second occipital(?), on the foramen magnum of which the eye was placed, the analogous foramen in the other occipital bone giving passage to the spinal marrow. The cerebrum was of the size of a pullet's egg, and the cerebellum was also very small. There was no trace of the first four pairs of cerebral nerves. A long tortuous pair of nerves, supposed to be the non-ganglionic portion of the fifth(?), came from the crus cerebelli, ran forward, and passed out by foramina, a quarter of an inch apart in the basilar process of the *anterior* occipital bone. A slender nerve, occupying the situation of the sixth, came from the spinal marrow, and passed out by a foramen in the petrous portion of the right temporal bone; there was no corresponding nerve or foramen on the left side. The seventh and eighth pairs were very distinctly seen in their usual position. The transverse semicircular canals were visible through the substance of the petrous portion of the temporal bones.*

38. *Infantile Menstruation.*—An instance of this anomaly has been recently reported. The child was three years of age, and had menstruated repeatedly for twelve months.

The mammæ were as healthily developed as in an adult of twenty years; the nates were also developed, the pubes having a slight flush of hair upon them; the labiæ, &c., as in a matured young person; the hymen was perfect, and the vagina anteriorly was of large size. The countenance was antique, and, altogether, this babe of three years had the appearance and gait of a little old woman. She menstruated regularly, and suffered all the concomitant uterine, lumbar, and other divers aches and pains, as is usual in those who perform this function, as evidencing a capability of utero-gestation.†

* Lancet. † Ibid., Jan. 29, 1848.

REPORT ON THE PROGRESS OF FORENSIC MEDICINE.

BY WILLIAM AUGUSTUS GUY, M.B. CANTAB.
Fellow of the Royal College of Physicians, Professor of Forensic Medicine, King's College, Physician to King's College Hospital, &c.

§ I.—*Toxicology.*

MINERAL ACIDS.

1. *Poisoning by Sulphuric Acid.*—Mr. Corfe,* of the Middlesex Hospital, reports a case where the quantity taken was about half a pint. It appears that the patient was taken to the hospital at a quarter-past five on the evening of the 5th of January, having swallowed the acid about two o'clock on the same afternoon. Previously to his admission he had taken several doses of magnesia, and had swallowed large quantities of water; upon swallowing the poison, he rejected a considerable portion of it, and suffered intense agony. When seen by Mr. Corfe, he appeared to be half strangled; the extremities were cold and mottled, and the pulse small and feeble. The epithelium on the tongue and lips was partially removed, while that on the fauces was more extensively detached. He was placed in a warm-bath, leeches were applied to the throat; he was allowed to swallow pieces of lake ice; an oily enema was administered; some bicarbonate magnesia was prescribed, and repeated doses of calomel. After a time he became tranquil, but died at 10 a.m, seventeen hours after his admission, and twenty hours after swallowing the poison.

On examining the body, the epithelium was found quite detached or corrugated from the base of the tongue to the cardiac extremity of the stomach. In the interior of the stomach, and for six inches below the pylorus, all the tissues presented the appearance of being covered with a layer of black pitch, an appearance due to the charred state of the tissues, and not to altered blood. A white spot, caused by the action of the acid, was found in the centre of the duodenum, where the peritoneum was almost perforated. The valvulæ conniventes presented also the curious appearance of being studded with numerous bubbles of air. The ileum was also corroded. The blood in the left auricle of the heart was black and clotted, but the left ventricle was empty and rigidly contracted.

A second suicidal case of poisoning by sulphuric acid, has been recorded by Dr. Chowne.† A widow, aged 50, who had been in the habit of drinking, and who had become much depressed in spirits, procured some sulphuric acid at a druggist's shop, and immediately took about half an ounce. The moment it reached her throat, she seemed to be strangled, and fell. She was taken to Charing Cross Hospital in about an hour and a quarter after swallowing the acid, having taken nothing in the interval, but having vomited several times. In the hospital, alkaline remedies were repeatedly administered, and she drank freely whatever was given to her. She complained at first of burning pain in the region of the stomach, but after an hour or two the pain left her entirely, and she even bore pressure over that organ without the expression of any suffering. Her most distressing symptoms, however, were extreme irritation in the throat, a feeling of suffocation, and a constant desire to cough in order to remove the tenacious phlegm from the fauces. She also vomited small quantities of a reddish fluid. The pulse was small and intermitting, and the mouth presented an appearance as of having been smeared with milk. The epiglottis was much enlarged, but the voice was almost natural. The patient gradually sank and died, with symptoms of extreme depression, about forty hours after taking the acid. Just before her death she was comparatively tranquil, both in mind and body.

* Medical Times, Jan. 15, 1848. † Lancet, July 10, 1847.

Post-mortem appearances.—There were no signs of the acid having come into contact with the external surface of the body, and the mucous membrane of the cheeks, gums, and tongue was not destroyed, but on the velum it had been removed. The epiglottis was covered by a thick layer of false membrane; it was also very much inflamed, but the rima glottidis appeared quite natural. There were two small corroded patches in the trachea, about one inch from its commencement. The lining membrane of the œsophagus was of a dirty ash colour, and could be easily stripped off; its muscular tissue was highly inflamed, and pus was found between the muscular and mucous membranes. The cardiac orifice of the stomach did not show any marks of the action of the acid, but the large curvature at its cardiac extremity had several strong ridge-like elevations, at small distances from each other, obviously thickened by the acid, the mucous membrane covering them being destroyed. Between the ridges the mucous membrane was natural. These ridges were formed in lines about the fifth of an inch broad, and upon examining their surfaces, they were found to be covered with what appeared to be a false membrane, which could be removed only at their margins, being elsewhere incorporated with the corroded mucous tissue. At the pyloric extremity of the stomach the action of the acid was less intense, but there was a large raised patch, about the size of a crown-piece, contracting the stomach in this part not less than the third of an inch. Extravasation of blood had also taken place beneath the mucous membrane, so as to give to the elevation a black mulberry appearance, and there was thickening of all the tissues around it. The duodenum was in parts corroded in the same manner as the cardiac end of the stomach. The cavities of the heart, with the exception of the right ventricle, were empty. This contained about half anounce of dark coagulated blood.

With a view of determining experimentally the cause of the appearances found in the stomach, some sulphuric acid was dropped upon the mucus in different parts of the intestinal canal, where the membrane was sound, and a coagulated film was immediately produced, similar to that observed in the stomach, though thinner. Immediately after the formation of this film, it could be scraped off, but if allowed to remain more than a few seconds, the mucous membrane became corroded and involved in it. The remarkable absence of pain over the region of the stomach, even on pressure, after the lapse of two hours, notwithstanding the several local lesions, as well as the great tranquillity enjoyed before death, though not without parallel in cases of poisoning by the mineral acids and by the more active irritant poisons, are circumstances which give an interest to this case.

A third case of poisoning by sulphuric acid occurred in an infant. Hannah Thomas was delivered of a fine healthy child in the Pontypool workhouse, on the 16th of February, 1847. When she had been eight days confined she was seen in the kitchen of the workhouse with a cup in her hands, in which another pauper kept some sulphuric acid for application to a ringworm on her child's head. The same day the child of Thomas was taken ill with vomiting, and other symptoms, and it died the next day. Suspicions were not aroused until the 29th instant, when Miller, the pauper who used the acid, discovered the child's apparel to be rotten in parts, and to resemble her own child's dresses on which she had dropped some of the acid. The body was exhumed, and a post-mortem examination and analysis made by order of the coroner, and a verdict of wilful murder recorded against the mother.*

2. *Poisoning by Nitric Acid—Recovery.*—A prostitute attempted suicide, by swallowing half an ounce of aquafortis. Three quarters of an hour elapsed

* Pharm. Times, April 10, 1847.

before any medical assistance could be obtained, though the druggist at whose shop the poison had been been bought had, in the meanwhile, attempted to administer calcined magnesia. On the arrival of Mr. Tomkins, who was called to the case, she was in a state of helpless intoxication, and was vomiting a large quantity of dark fluid matter, resembling porter in colour, and mixed with viscid mucus. The face was congested, the lips were blue and swollen, with a yellow stain and two or three small blisters in the middle of the under lip. There was great depression, contracted pupils, strong spasmodic closure of the jaws, which only intermitted during the vomiting, and grinding of the teeth. As this state of things precluded the use of any antidote, hot-water bottles were applied to the feet, and she was put to bed, where she lay for several hours in a state of insensibility, interrupted only by efforts to vomit, which were readily excited by pressure on the throat. Pressure on the abdomen, at no period, caused the expression of severe pain. After reaction was established, leeches were applied to the throat and abdomen, and doses of hydrocyanic acid administered to allay the vomiting. All the symptoms gradually yielded, and in the course of two or three days the membranes of the mouth began to separate, one portion being moulded into the shape of the fauces, pharynx, and upper part of the œsophagus. From this time she gradually recovered.

It is probable that in this case, as Mr. Tomkins suggests, but little acid reached the stomach, and that, as the patient had been drinking before she took the poison, that which did reach it was so diluted with gin and beer as not to cause much inflammatory action in that organ.*

3. *Poisoning by Hydrochloric Acid.*—A case of alleged poisoning by hydrochloric acid, fatal at the end of six weeks, is made the subject of discussion in the 'Annales d'Hygiène.'† The acid was presumed to have been taken either pure or mixed with a varnish, for the purpose of procuring abortion. The history during life, though imperfect, affords a strong probability that in one or other form the poison was actually administered; but the chief interest of the reported case is in the chemical examination. The parties to whom the chemical examination was first entrusted obtained from a decoction of the stomach and its contents an acid liquid, which gave with nitrate of silver an unascertained quantity of white precipitate, insoluble in water, and in nitric acid, even with the aid of heat, but soluble in ammonia. The examiners, therefore, concluded that the stomach and its contents contained hydrochloric acid, to which they attributed the death of the deceased. This opinion having been very properly called in question, experiments were made by order of the authorities to ascertain whether the stomach and its contents, as well as the intestines, do not commonly yield the same results. On following the process adopted by the parties first employed, precisely the same results, viz. a marked acid reaction of the filtered liquid, and a considerable quantity of chloride of silver, were obtained, both from the stomach and intestines. With the liver no alkaline reaction was obtained, but a considerable proportion of the chloride. The experiments were made on the viscera of two young females who had died of phthisis.

4. *Poisoning by Oxalic Acid.*—A case of poisoning by oxalic acid, terminating favorably, is reported by Dr. Charles Barham of Truro, in the 'Dublin Medical Press,' Oct. 13, 1847. The dose was *one ounce;* the first appearance of the symptoms in *ten minutes*, in the shape of vomiting of fluid of a dark bloody colour; convalescent on the eleventh day. On the ninth day an eruption appeared over the body, similar to the maculæ of typhus, but passed off by the eleventh day. The other symptoms do not challenge observation.

* Lancet, May 8, 1847.

* Jan. 1848, p. 179.

MINERAL POISONS.

Arsenic.

5. *Case of the Duke of Praslin.*—The particulars of the Praslin tragedy are still fresh in the recollection of our readers. Some points connected with the death of the duke have given rise to much discussion; and as the case, in all its aspects, is one of considerable interest, the following condensed account is compiled from the official documents.* On the morning of the 18th of August 1847, the Duchess of Praslin was found dead in her bedroom; the body presented upwards of thirty incised, punctured, and contused wounds. The furniture of the apartment bore evidence to a desperate and long-continued struggle; and the bruises, abrasions, scratches, and several slight injuries on the person of the Duke of Praslin, proved that he had borne a part in those struggles. The point of a poignard, the handle and blade of the same instrument, and the butt-end of a pistol stained with blood, were found to correspond sufficiently with the injuries on the body of the duchess. All the circumstances of the case taken together, leave no room for doubt that the duchess had fallen by the hand of her husband.

Suicide of the murderer. About ten o'clock, on the evening of the 18th, the Duke of Praslin began to vomit. This was the first well-ascertained symptom of poisoning; for it is believed that the frequent retirement of the duke was with a view of baffling the close surveillance of the police. Be this as it may, he was first observed to retire to the water-closet between five and six o'clock in the evening. The vomitings were accompanied by an extremely feeble pulse, and great debility; after taking a glass of Bordeaux wine and some ice, the vomiting ceased, and he appeared much calmer. During the night, and early in the morning of the 19th, the vomitings returned; and the duke being placed in a bath, fainted; the fainting recurred on leaving it, and soon after he had an involuntary evacuation. At three o'clock in the afternoon of the 20th, the duke being in bed, stated, in answer to a question, that he was better. He spoke distinctly, his mind was clear, he did not complain of any pain in the abdomen on pressure, he breathed freely, the tongue was clean, but the pulse was extremely small and irregular, and the extremities icy cold. These symptoms led M. Andral, who had been called in, to suspect the possibility of poisoning, though he thought the strong mental emotions which the duke had suffered sufficient to produce them. By way of precaution, he desired that the evacuations should be henceforth preserved. At eleven o'clock of the evening of the same day the duke was somewhat stronger; had not passed any more evacuations; the pulse had become regular and stronger, but continued more frequent than usual; the hands were still cold. At four o'clock of the morning of the 21st the duke was removed from his residence to the prison of the Luxembourg. He suffered merely from coldness of the extremities, and considerable thirst. An hour after his arrival he was found with a calm expression of countenance, with a little more colour than natural; a somewhat vacant look; the temperature of the body, with the exception of the hands, restored; the sufferings relieved; pulse tolerably full and from 80 to 85 in a minute; tongue clean; thirst excessive; stomach free from pain; no vomiting or nausea. In the evening the pulse was small, frequent, and like a thread, and the extremities cold; there was a sensation of extreme tightness in the throat and of great oppression, and the abdomen was tympanitic and slightly painful; no evacuations of any kind since the arrival at the Luxembourg. On the 22d all the symptoms were more intense. There was extreme

* Annales d'Hygiène et de Médecine Légale, Oct. 18, 1847; p. 367. See also Brit. and For. Med.-Chir. Rev., Jan. 1848.

spasmodic constriction of the throat, very painful deglutition, and ardent thirst; the tongue and mucous membrane of the mouth and pharynx of a deep red; a sensation of burning from the mouth to the anus; the abdomen inflated and painful to the touch; a high state of fever; a frequent and irregular pulse, now strong, now weak; extreme oppression; no nausea, no vomiting; bowels twice relieved by injections; urine passed in small quantity, though diuretics had been employed. The duke passed a restless and sleepless night, and was evidently growing weaker. On the 23d, the symptoms were aggravated; the features had undergone a great change; the complexion had assumed a reddish-brown cast; the intellect remained entire; there was constant thirst; extreme constriction of the throat; very painful deglutition; the tongue red and dry; the abdomen greatly inflated and painful; the respiration much oppressed; the pulse small and frequent; the extremities very cold; no evacuation of the bowels; no urine passed. At seven o'clock, on the morning of the 24th, the sight had become dim, the respiration very difficult, the pulse very weak and frequent, but the mind still intact. At one o'clock the respiration was more embarrassed, the extremities icy cold, the pulse very frequent and scarcely perceptible. The duke was evidently sinking, and died at thirty-five minutes after four o'clock, having preserved his senses to the last.

The post-mortem examination discovered nothing worthy of remark in any other part of the body, except the alimentary canal, unless the effusion of blood in spots under the pleura, and under the lining membrane of the left ventricle of the heart, be considered as due to the action of the poison. The following were the appearances discovered in the alimentary canal:—

In the stomach, from the cardia to the pylorus, there were seven large eschars, from three fourths of an inch to an inch and a half in diameter, scattered over the length of the great curvature. These eschars were black, and completely circumscribed by a hard and thickened border of a faint yellow colour. Round these eschars, for a short distance, the mucous membrane was somewhat softened and of a deep red colour. The eschars did not extend through the whole thickness of the walls of the stomach, and there was neither ulceration nor perforation. The rest of the mucous membrane was perfectly healthy. The duodenum and the lower portion of the ileum were of a uniform dull red colour, but free from eschars and ulcers. The rest of the intestines, small and large, were perfectly healthy.

The chemical analysis was entrusted to MM. Orfila and Tardieu, who, by means of Marsh's apparatus, detected arsenic in the liver, and in the stomach and its contents; they failed, however, in obtaining it in a small quantity of urine voided shortly before the death of the duke.

The case of the Duke of Praslin gave rise, at the time of its occurrence, to much discussion. Some blame was attached to the medical attendants for not having sooner attributed the symptoms under which the duke laboured to poison; suggestions were thrown out as to its being a case of mixed poisoning by arsenic and laudanum; the unequal march of the symptoms gave rise to a suspicion that he had contrived to repeat the dose; and some were inclined to doubt the administration of arsenic, on account of the length of time that the duke survived. Most of these points are discussed in the report of MM. Orfila and Tardieu, and the objections satisfactorily disposed of. They arrive at the following conclusions;

1st. That M. de Praslin died poisoned by a preparation of arsenic.

2d. That the poison was very probably swallowed late on Wednesday, August 18th, after four o'clock in the afternoon, and before ten o'clock at night,

3d. That the march of the symptoms was regular, and such as we observe in cases of poisoning by arsenious acid.

4th. That the cessation of the vomiting ought not to be attributed to an improvement, even momentary, in the state of the patient, since he continued to be a prey to severe symptoms of arsenical poisoning.

5th. That the death, though slow in its occurrence, might be the actual effect of a quantity of arsenious acid swallowed six days previously.

The quantity of the poison, though not ascertained, must have been considerable; and, taking all the circumstances of the case into the account, it seems in the highest degree probable that the poison was swallowed between the hours of nine and ten on the evening of Wednesday, August 18; so that the duke survived its effects no less than five days and eighteen or nineteen hours—a considerable, though by no means a very unusual, period; for several cases are on record, in which the fatal event did not happen till the lapse of three, four, five, six, or seven days. Out of forty-eight cases, collected and analysed by the writer, one terminated on the sixth, and one on the seventh day.

It may be well to add to the foregoing account of the case that arsenic was found on the person of the duke, in the pocket of a dressing-gown, which the police had at first neglected to search.

6. Several other cases of poisoning by arsenious acid are recorded in the French Journals. The following are given as possessing some points of interest:—1. A family of four persons were seized, after partaking together of some broth, with acute pain, vomiting, and other symptoms of poisoning. They all recovered, though the dose was proved to have been very considerable. The causes assigned for the favorable termination were, that the arsenic was administered in fragments, or coarse powder, and that it was enveloped by the greasy matter of the broth. Arsenic was found in large quantity in the matters discharged from the stomach and bowels.* 2. In the case of two unsuccessful attempts at poisoning by arsenic, the fact was established by giving portions of the prepared food to two animals; and suspicions having been excited respecting the death of an old man of 80, who died eighteen months previously, were verified by the exhumation of the body. Although putrefaction was very far advanced, and the viscera formed one mass of adipocere, they were found to contain an enormous quantity of arsenic.† 3. A husband was poisoned by his wife, with arsenic furnished by her paramour. The quantity given to the wife was about an ounce, of which she administered a part in white che[illegible]mixed with milk. The husband survived ten hours. MM. Chevallier and Bayard detected arsenic in appreciable and even ponderable quantities in the stomach, intestines, liver, spleen, heart, and lungs; and in the matter voided from the stomach and bowels. A large number of suspected substances were examined, none of which were found to consist of, or to contain arsenic; but certain substances found in the possession of the accused paramour, his uncle, and godfather, were found to be arsenic. The paramour was condemned and executed, and the wife and a female accomplice were condemned to perpetual imprisonment with hard labour.‡

7. *Poisoning by Arsenic—Magnesia as an Antidote.*—M. Cadet-Gassicourt has related two cases of arsenical poisoning, in which hydrated magnesia was successfully administered. Both cases occurred in the practice of M. Chammartin.§

The subject of the first case was a lady in Paris, who, on the 27th of October, 1847, took a considerable dose of arsenic in the form of powder sprinkled on bread and butter. Three or four hours after this she took a cup of coffee; this brought on immediate vomiting, which recurred at intervals.

* Gazette Médicale, 4 Septembre, 1847. † Ibid. ‡ Annales d'Hygiène, Avril, 1848, p. 419. § Journal de Chimie Medicale, Fevrier et Mars, 1848.

Between six and seven o'clock the same evening M. Chammartin was called in, and found the patient suffering from all the symptoms of arsenical poisoning. He prescribed hydrated oxide of magnesia, of which 300 grammes (between ℥ix and ℥x), were given in the course of two hours. It was followed by liquid evacuations, and the patient recovered.

The subject of the second case was a man æt. 23, of dissipated habits. Three hours after an unusually full supper he took a large dose of powdered arsenic, followed by copious draughts of water. He passed the night in great agony in the bowels and chest, but had no nausea, vomiting, or diarrhœa. At 11 a.m. the next day, M. Chammartin was sent for, and found the man in a state of great collapse, with his face pale, and his features haggard and pinched; he was agitated, and spoke with a feeble voice; his respiration was difficult, and he complained of a tearing sensation along the gullet and at the epigastrium, and of thirst and dryness of the fauces. His tongue was moist, but red at the edges and point, his deglutition was easy, and there was no diarrhœa, though he suffered from colic and cramps in all his limbs. The hydrated oxide of magnesia was then given, warmth was applied to the surface, and he was afterwards bled. He was then removed to the Hôtel Dieu, where all his symptoms improved. He finally recovered. The quantity of magnesia given was about 500 grammes (about ℥xvij), but while in the Hôtel Dieu some hydrated sesquioxide of iron was administered.

The same journals contain an account of the dispute between MM. Caventon and Bussy, as to the comparative efficacy of the hydrated magnesia, and the hydrated sesquioxide of iron as antidotes to arsenic. The former advocates the superiority of the sesquioxide over the magnesia, while M. Bussy is inclined to the opposite opinion. M. Caventon says that the salt formed by the iron with arsenic is less likely to be decomposed by the muriate of ammonia which naturally exists in the stomach and intestines, and states that this salt readily decomposes the arsenite of magnesia, so that when the last is the antidote used, the arsenic is more liable to be reduced to a soluble state. But M. Bussy remarks that such a result is obviated by using an excess of magnesia, which again, according to M. Caventon, is apt to occasion an extrication of free ammonia, which, from its irritating properties, cannot but concur in complicating the case.

The same subject has also been investigated by M. [illegible]egel, whose results are briefly these:*—The author has been enabled to detect traces of arsenic in a filtered solution, upon the application of the sesquioxide of iron, by the sulphuretted hydrogen test, wherever the quantity of the oxide was less than seven parts, but the liquid was perfectly free from all traces of the poison wherever the antidote was added in the proportion of more than 10 parts. With arsenic acid at least 12 parts were required to precipitate the acid completely. With respect to the hydrate of magnesia, he found that to precipitate entirely one part of arsenious acid, at least 18 parts of the antidote are required, and he recommends that, in preparing the magnesia, 100 parts of the sulphate should be precipitated by 50 parts of caustic potash, and the precipitate washed and preserved in bottles under water. Moreover, the author found that the compound formed by magnesia with arsenious acid was quite insoluble in cold and boiling water. When the arsenic is in combination with alkalies, this antidote does not completely remove it from its solution, but by mixing some undecomposed magnesian salt with the hydrate of magnesia, all traces of the poison were removed. He accordingly recommends a mixture of hydrate of magnesia and sulphate in water, in equal parts, as the most advantageous

* Jahrbuch für Prakt. Pharm. xiii, and Chemical Gazette, August 1, 1847.

form, especially when it is uncertain whether the poisoning has resulted from free arsenious acid, or some alkaline arsenite.

In preparing the magnesia for the purposes of an antidote, it is necessary according to M. Bussy, to avoid calcining too much, as highly calcined magnesia is useless.*

8. *Poisoning by Arsenic.—Detection of the Poison.*—On the trial of Elizabeth Johnson, for the murder of her husband, at the Liverpool Lent Assizes for 1847,† a verdict of not guilty was returned in the face of the strongest circumstantial evidence. The objection that the arsenic detected in the exhumed body might have been derived from the soil, which had not been analysed, having been much insisted on by the presiding judge, Baron Alderson, who expressed himself as follows:—"But the quantity of arsenic which Mr. Watson found was but very small, not more than a grain, if so much, in the nineteen ounces of intestines; and as the grave was wet, may there not be a possibility of the small quantity of arsenic being derived from water which had drained into the body out of the soil of the churchyard?" This case, and the value of the objection here stated, will be found very ably discussed in Mr. Taylor's new work on Poisons,‡ p. 366. It is evident, from the importance attached to this objection in the present instance, that the chemical examination of the surrounding soil will be necessary in all cases in which the coffin is so far decayed or injured as to allow of the contact of the soil with the body, or of the percolation of the rain through it. Though the fact that arsenic, where it exists in the soil, is in an insoluble form, and its proved non-absorption by the body, in more than one instance where it was actually contained in the soil, might appear to render such a precaution unnecessary, it is certainly expedient to examine the soil, in order to ascertain whether it contains arsenic, and if so, in what form. The other points of interest in the case will be found fully discussed in the work referred to, which we may take this opportunity of recommending as the most recent work on the subject in our language, and one worthy to take its place beside the older standard work of Dr. Christison.

9. *Poisoning by Arsenic—Detection of Arsenic in the Bones of the Skeleton after ten years.*—A case of poisoning occurred in the village of Scamague, without the fact having reached the ears of justice. Ten years afterwards, circumstances arose which led to the apprehension of four suspected persons. One of them confessed that the murdered individual had died in twenty-four hours from the effects of arsenic. The skeleton was exhumed and submitted to chemical analysis, and arsenic was distinctly discovered, while none was detected in another skeleton that lay so close to the other that at first it was mistaken for it.§

10. *Arsenic detected in the Urine and in the Serum of a blistered surface.*—M. Legroux, physician to the Hospital Beaujon, in a case of poisoning by arsenic, where the matters discharged from the stomach and bowels had been thrown away, succeeded in obtaining evidence of poisoning in the urine and serum of a blistered surface. M. Chatin, to whom the analysis was entrusted obtained from about 1300 grains of urine an arsenical ring, and spots enough to cover two porcelain plates; and from about 620 grains of serum 16 well marked spots of arsenic, and several smaller stains. M. Chatin, consequently,

* Bouchardat, in Nouvelle Encyclographie des Sciences Méd., Fevrier 1847.

† Med. Gazette, Sept. 1847, p. 555.

‡ 'On Poisons in relation to Medical Jurisprudence and Medicine,' by Alfred S. Taylor, F.R.S., Lecturer on Medical Jurisprudence and Chemistry at Guy's Hospital.

§ Gaz. Méd., Janvier 1847.

suggests the application of a blister in cases of suspected poisoning, where the secretion of urine is suspended, and the matters discharged from the alimentary canal have been lost,* a suggestion which is certainly deserving of attention.

11. *Test for Arsenic.—A New Mode of distinguishing the Spots of Arsenic and Antimony.*—Both the methods recently recommended by MM. Lassaigne and Cottereau (Ranking's 'Abstract,' Vol. V), being tedious and open to objections, the writer of the present abstract proposes the following as expeditious and easy of application.† Having obtained a crust of metal on porcelain, treat it with a drop of hydrosulphuret of ammonia. The antimonial crust is rapidly dissolved, the thin portions of the crust at the circumference instantaneously, while the centre speedily contracts, and in less than a minute disappears. The arsenical stain is at first scarcely affected at all, but after a considerable interval of time, varying with the thickness of the crust, is acted upon, but imperfectly. On the evaporation of the excess of hydrosulphuret of ammonia, the antimonial spot assumes the form of a distinct orange-red sulphuret of antimony without any trace of the metal; while the arsenical stain, unless the test be repeatedly applied, always presents a centre of metal, with a border of pale lemon-yellow sesquisulphuret. If treated with a drop of liquor ammoniæ, this latter stain disappears, while the antimony remains intact; and, on the other hand, on touching the spots with hydrochloric acid, the antimony disappears and the arsenic remains.

The hydrosulphuret of ammonia employed in this case, should contain an excess of sulphur. Freshly-prepared hydrosulphuret acts less characteristically than that which has been some time in use; unless the liquid have a distinct yellow colour, it is always desirable to add to it a few grains of sulphur. We must, however, avoid such an excess of sulphur as shall impart to the test an orange colour. When so prepared, the largest and thickest stains of antimony will be found to disappear in from three to seven seconds, while even the faintest arsenical crusts remain for a very considerable period intact, and are never completely dissolved by a single application of the test. Another precaution which should be observed is that of proportioning the quantity of the test to the size and thickness of the spot. A single drop is sufficient, but that should be applied by a large or small-sized glass rod, according to the size of the spot itself. This test, when applied with the precautions here pointed out, is perfectly conclusive; but it would be well to corroborate it by Bischoff's test—the chloride of lime—which dissolves the arsenical spot, but leaves the antimonial spot intact; and still further by the nitro-muriatic-acid test, to which Mr. Alfred Taylor gives the preference. This test may be applied as follows: add to the metallic stain a drop or two of nitro-muriatic acid (two parts of muriatic to one of nitric acid), and evaporate to dryness. The brownish white residue is soluble in water if the stain was arsenical, insoluble if antimonial; and the arsenical stain gives a brick red precipitate with nitrate of silver; not so the antimonial stain.

The three tests now recommended appear to be preferable for promptitude and certainty to any others; and should a series of metallic stains yield characteristic reactions with each of them, the evidence of the presence of arsenic or antimony, will be as satisfactorily established as it is possible to expect or desire.

12. Much has been lately written on the means of imparting to the cheap, colourless, and almost tasteless oxide of arsenic properties, which, in actual use, may suffice to warn the intended victim of poison of its presence. Dr.

* Journal de Chimie Médicale et de Toxicologie, Juin 1847.

† Pharmaceutical Times, July 10, 1847.

Cattell, of Braunston,* proposes the following admixtures :—1. Arsenious acid lb.j; prussiate of potash, ʒxx; sulphate of iron, ʒx. The arsenious acid and the prussiate of potash to be mixed together before adding the iron. The substances to be dry, and the mixture to be preserved in a stoppered bottle. 2. Substitute for the sulphate of iron, the same quantity of sulphate of copper. 3. Arsenious acid, lb.j; bichromate of potash, ʒiij or ʒiv. 4. Arsenious acid, lb.j; sulphate of zinc, ℥ij. 5. Arsenious acid, lb.j; tartarized artimony, ʒij. 6. Arsenious acid, lbj; pulverised naphthaline, ℥ss. The first three combinations effect the object in view by changes of colour, which, for the principal articles of diet, will be found minutely detailed in Dr. Cattell's paper. The fourth and fifth combinations act as emetics; the last excites coughing.

13. *Poisoning by Arsenite of Copper.*—Mr. Hetley, visiting surgeon to the St. Marylebone Infirmary, was sent for to see several persons who had been taken suddenly and dangerously ill. He found three adults and eight children vomiting and retching, the angles of their mouths and their linen being coloured green by the vomited matter. One of the children stated, that he had bought two pennyworth of coloured confectionery ornaments, of which they had all partaken. The symptoms appeared within ten minutes. As the patients had already vomited freely, the treatment was confined to the administration of a mixture of new milk-eggs and sugar, under which they recovered without any bad symptoms.†

An accident on a larger scale, but happily unattended by any fatal result, occurred in our own experience, one of the patients having been brought to the King's College Hospital on the day after the accident. An ornamental green basket, after having been used at an evening party, was given to one of the attendants who distributed the fragments among the inmates of a large workshop. Severe vomiting and purging was the result. On inquiry at several confectioners, we ascertained that arsenite of copper is commonly used to give a green colour to confectionery, and an analysis of a fragment of the basket confirmed this statement. This poison will continue to be used till some grave accident occurs.‡

14. *Case of Poisoning by Turbith Mineral* (*Subsulphate of the Peroxide*). —The following case, which occurred in the practice of Dr. Letheby, was communicated to the Pathological Society of London by Mr. Ward.§

G. L., aged 16, on the night of the 19th of February, took two pennyworth (about one drachm) of this substance, which caused a burning sensation in the throat and mouth, followed by vomiting. The pain in the throat increased, and soon extended to the chest and abdomen. He applied at the London Hospital for relief, and upon admission, vomited repeatedly; his countenance was pale and anxious, and he complained of chilliness and pain in the throat and stomach. Sulphate of zinc and mucilaginous draughts were administered, but the symptoms continued, and he passed a restless night, with purging, vomiting, and cramps in the legs. All the inflammatory symptoms, particularly those referred to the stomach, continued during the next day.

On the 21st the purging ceased, but the throat was still painful, and the breath began to acquire the mercurial fetor. He now daily became weaker and weaker, with continued vomiting and profuse salivation, the gums acquir-

* Lancet, Oct. 9, 1847. † Pharmaceutical Journal, Oct. 1, 1847, p. 199.

‡ This anticipation has been verified as this sheet was passing through the press.

§ Medical Gazette, March 12, 1847.

ing a deep bluish tint, and beginning to ulcerate at the margins. He never lost his senses or became comatose, but died nearly a week after the administration of the poison. The following were the most striking post-mortem appearances: the blue tint of the lips and gums, with the ragged ulcerated condition of the latter; swelling of the salivary glands; the alimentary canal, especially from the cæcum downwards, redder than natural, and studded with petechial spots; the intestines contracted through their whole extent, nearly empty, and of a slate or leaden colour; the bladder contracted; the lungs gorged and collapsed; the heart empty on its left, and distended on its right side, leading to the conclusion that death had commenced at the respiratory organs, which view was also corroborated by the turgid condition of the venous system generally, and the black uncoagulated state of the blood.

LEAD.

15. *Impregnation of Water with Lead.*—A notice of the early researches of Mr. Osborn on this subject will be found in Vol. V of this 'Abstract,' p. 341, since which time he has been induced to follow up those investigations, and has ascertained, by careful chemical examination of the water of a well at Portswood, that the lead piping is corroded and acted upon by free hydrochloric acid contained in the water. In all probability, the same cause would be found in operation in other parts of England, as well as in the localities specified by Mr. Osborn.*

COPPER.

16. Victoire A., an idiot, died after an illness of 14 days, with symptoms and under circumstances which excited, after the interment, suspicions of poisoning. The body was disinterred, and the principal organs, as well as the contents of the intestines, were placed in the hands of Chevallier and Lassaigne. They also examined four specimens of earth taken from near the coffin. The conclusions at which they arrived were as follows: 1st. That the organs extracted from the body of the girl Victoire A. contained a preparation of copper. 2d. That that preparation of copper must have been swallowed; because the presence of copper had been detected in the intestines, their fæcal contents, the stomach, the liver, the heart, the lungs, the kidneys, and the muscles. 3d. That the earth surrounding the coffin containing the body of the girl did not contain any copper. 4th. That the copper found in the organs of the girl Victoire A., by reason of the proportion in which it was obtained, could not be considered as *accidental copper;* for it is known that we discover only traces of the metal in the animal economy, and that in some instances it has been found to be absent.†

17. *Impregnation of Water with Copper.*—Mr. Osborn, of Southampton, has recorded a case in the 'Pharmaceutical Times,'‡ in which the impregnation of water with copper was clearly due to the use of a brass force-pump. He found the water to become so quickly charged with the metal, that he was led to suppose the existence of some acid which might render the copper more easily soluble. He thinks that this acid may be supplied by the grease used for the piston, or that the oxide of copper, like that of lead, may be dissolved by acids naturally contained in the water.

18. *Normal Lead and Copper.*—M. Legrip, in the course of an inquiry into a case of suspected poisoning which gave negative results, was induced to test the liver and spleen by carbonization and nitric acid, when he obtained 0·0027 gramme (about 0·00017 grain, English) of lead, and 0·0045 gramme

* Pharmaceutical Journal, May 1, 1847. † Annales d'Hygiène, Avril 1848, p. 408.
‡ Oct. 16, 1847.

(about 0·0003 grain, English) of copper, which he is inclined to regard as the normal proportion contained in those viscera. The quantity is so small, that whether it is to be accounted for by some impurity in the test employed, or to be considered as a normal constituent of the human body, it is not likely to lead to any practical difficulty in medico-legal inquiries.*

M. Orfila also inclines to the belief, that both these metals are normal constituents of the human body, and that they can be easily detected by carbonization of the liver, spleen, and other organs. If a salt of lead or copper has been taken as a poison, and absorbed into the tissues, he considers that the mere digestion of the viscera in boiling water will suffice to separate the soluble compound of the metal produced. The question will be found fully discussed in a paper communicated to the Académie de Médecine.†

* [See also, on this subject, the 'Abstract,' Vol. II, p. 417, for the results of the experiments of Devergie and Boutigny; and Vol. V, p. 341, for the negative result obtained by Mr. Alfred Taylor in the case of lead.]

ANTIMONY.

19. *Poisoning by the Chloride of Antimony.*‡—W. H., aged 41, a potboy, of intemperate habits, swallowed an ounce of this substance. He immediately experienced severe pain in the throat and fauces, and soon became insensible. The stomach-pump was then applied, and the patient was afterwards taken to an hospital, at 4 p.m., April 23d, 1847. Upon his admission, the surface of the body was cold and clammy, the eyes lustreless, and the pupils inactive; the pulse scarcely perceptible, and the expansion of the chest, during inspiration, so slight that respiration seemed suspended. Stimulants were applied to the nostrils, and cold affusion to the head, by which he was so far roused as to be able to swallow tincture of bark, diluted with green tea, which was repeated at short intervals for an hour, during which period he vomited some undigested food three or four times. Though all his symptoms, after this, soon improved, yet he was so prostrated for several hours that he could not articulate. The next day he began to complain of a sense of burning, and severe pain in the throat and abdomen, with some degree of tenderness. The tongue was dry in the centre, and the fauces considerably inflamed. He was ordered fomentations, farinaceous food, castor oil, calomel, and opium. He then became restl[illegible] with a hard pulse, and the abdominal tenderness increased, until the o[illegible]rated, when all the symptoms were relieved. He rapidly recovered, and soon left the hospital. This is the second case in which butter of antimony has been made use of for the purpose of suicide. In two instances it has been taken by mistake; in the one for ginger beer, and in the other for antimonial wine.

ZINC.

20. M. Reboulleau, a French physician, describes some peculiar effects which he has observed to be produced on the health of workmen in a brass foundry in the neighbourhood of Paris. They bear a close resemblance to an attack of intermittent fever, beginning with dull pains in the hypochondria, back, and limbs, oppressed respiration, and loss of appetite, followed by cold shiverings, pallor of countenance, contraction of the features, chattering of the teeth, small, frequent, and irregular pulse, accompanied sometimes by nausea and vomiting. This first stage is followed by redness of the face, general heat of surface, full pulse, and warm and moist skin; and this stage, again, by profuse perspiration, which lasts from eight to ten hours. M. Reboulleau himself has suffered from all these symptoms. It appears that some workmen escape the attack altogether; others are rendered proof against it

* Journal de Chimie Médicale et de Toxicologie, Mai 1847. † Gaz. Méd. Juin 1847.
‡ Dublin Medical Press, March 8, 1848; and Lancet.

by passing through three or four paroxysms, produced by as many distinct exposures to the cause. The author attributes the effect chiefly to the oxide of zinc, but thinks, at the same time, that copper and arsenic are not altogether innocent of it. The proper prophylactic is, of course, efficient ventilation, or an arrangement by which the metallic fumes may be readily carried off as soon as disengaged.*

OPIUM, AND ITS PREPARATIONS.

21. *Poisoning by Godfrey's Cordial—Recovery under the use of the Electro-magnetic Battery.*—Mr. W. J. Tubbs, of Upwell Isle, relates a case of poisoning by half a teaspoonful of Godfrey's cordial, given to an infant three weeks old. The symptoms of poisoning were well marked; and recovery took place under gentle shocks passed along the spine and through the region of the heart during ten minutes, after cold affusion, flagellation, ammonia to the nostrils, the injection of cold water into the ears, the application of mustard poultices, and an emetic of five grains of sulphate of zinc, had failed.†

22. *Poisoning by Acetate of Morphia treated by large Doses of Coffee.*—A man swallowed, at one time, about seven décigrammes (about 13¼ grains) of acetate of morphia. As the exhibition of twenty centigrammes (four grains) of tartar emetic failed to excite vomiting, the medical attendant, about three hours after the taking of the poison, administered, during a state of profound coma, a very concentrated infusion of coffee, with the dregs. In twelve hours the patient must have taken upwards of ten ounces of coffee. He afterwards recovered.‡

23. *Method of determining the presence of Morphia in Cases of Poisoning.*—M. Mermu§ recommends the suspected matter, if solid, to be carefully washed with distilled water acidulated with acetic acid; if fluid, to be diluted with the same. The solution having been warmed, filtered, and evaporated to dryness, the animal matter is to be separated by treating the residue with boiling alcohol. To the alcoholic solution, previously filtered, tincture of nutgalls is to be added, and maceration being continued for fifteen days, the morphia remains in solution in combination with tannin. The solution, again filtered, is then to be diluted with distilled water, and a solution of gelatine is to be added in excess, to decompose the tannate of morphia. Filtration separates the tannin and the gelatine, and the alcohol being dissipated by evaporation, the morphia remains, and may be recognised by the usual reagents.

HYDROCYANIC ACID.

24. *Suicide by Hydrocyanic Acid—Acts of Volition and Consciousness.*—The following case is peculiarly interesting, inasmuch as both the *strength* and *dose* of the poison were known.‖

Mr. Shepherd, a surgeon of Worcester, was in the habit of entering the shop of Mr. Stringer, a chemist, for the purpose of prescribing. Upon the present occasion (June 8th) he came to the shop with his sister, Mrs. Hill, and asked for ʒij of Scheele's prussic acid, which was handed to him in a bottle properly labelled. He shortly afterwards left the shop, but returned again with Mrs. Hill in the course of a few minutes, and after paying for some carbonate of soda, requested to speak with Mr. Stringer in the back parlour. Mr. Stringer followed him into the room within *two* minutes, being detained

* Académie des Sciences, Gaz. Médicale, 3me série, tome ii, p. 790.
† Medical Gazette, Sept. 1847, p. 513. ‡ Journal de Pharmacie et de Chimie, Fev. 1847.
§ Journal de Chimie et Toxicologie, and Gaz. Méd. Avril 17, 1847.
‖ Prov. Medical and Surg. Journal, June 30, 1847.

in the shop at the time by a customer, and found Mr. Shepherd sitting on the sofa, with the bottle in which the prussic acid had been placed, empty and on the table. After a few words with Mr. Shepherd, Mr. Stringer went and fetched the nearest surgeon, and returned with Mr. Pierpoint, who found the deceased lying on the floor, but still alive. After a vain attempt to excite vomiting and administer ammonia, Mr. Shepherd heaved two or three sighs and died. From the evidence of Mrs. Stringer on the inquest, it appeared that she, hearing footsteps in the parlour above her head, went up stairs, and looking through a glass-door, saw the deceased drinking something. She then went down stairs, and having again, in about ten minutes, heard the footsteps of a person passing quickly, went into the room, and found Mr. Shepherd alone, and on the floor. Mrs. Hill, it also appeared, entered the parlour on the departure of Mr. Stringer for the surgeon, and met her brother, who, *advancing* towards her about a *yard* into the room, complained of being sick, and shortly afterwards fell upon the ground. It should be observed, that previously to taking the poison, Mr. Stringer had drunk some water in the shop, which may have delayed its operation. There was no evidence of the occurrence of either convulsion or shriek.

The following were the appearances of the body after death: the countenance, particularly the lips, were livid, the shoulders and posterior part of the trunk purple. Dark fluid blood flowed freely on dividing the integuments; the lungs were considerably congested with dark blood, and the right auricle and ventricle of the heart and the vena cava were found full of blood of the same character; but the left ventricle was firmly contracted, and quite empty. All the abdominal viscera were natural, and the brain healthy, but full of blood. The stomach, particularly at its cardiac extremity, had a very vascular appearance, and in some of the patches oozing of blood had evidently taken place. The other parts had a brownish appearance. About an ounce of raspberry-coloured fluid was found in the stomach, which smelt very strongly of almonds, but five out of six medical gentlemen failed to perceive any odour of prussic acid upon approaching the body, either before or after it was opened.

A sample of the acid was then forwarded to Mr. Taylor, who ascertained that the strength of the acid used in this case was rather more than 1·9 per cent., very nearly that of the acid of the London Pharmacopœia. The bottle forwarded to Mr. Taylor was found also to contain exactly 105 drops, or 98 grains, and corresponding to 1·87 real acid, which was the quantity swallowed by Mr. Shepherd, though, according to the evidence of Mr. Stringer, the quantity he measured out was 120 drops of the same acid.

This case adds another instance to those now of no uncommon occurrence, where acts of volition of the most decided character have been performed after large doses of the poison. The absence of the shriek and of convulsions, and the non-detection of the odour of the poison in the body after death by several observers, are also points worthy of notice.

25. Dr. S. C. Sewell, of Montreal,* gives the following case of poisoning by prussic acid:—A hypochondriac gentleman took 7 drachms of the acid, of the estimated strength of 3 per cent. Previous to swallowing the poison he locked himself in his room, but after about a minute unlocked the door, and cried out, "Come to me quick, I am dying." A servant immediately entered the room, and found him lying on his back on the sofa, with his legs crossed, insensible, and snoring. Dr. Sewell arrived in twenty minutes. He was then dead, and presented the appearance of profound slumber; his legs crossed, his arms by his sides, and his eyelids firmly closed. At the end of 20

* Brit. Amer. Journal of Med. and Phys. Science, Nov. 1847, p. 169.

hours the body presented the following appearances:—The eyes brilliant, the face and lips livid, and the muscles, with the exception of those of the legs, flaccid. Dr. Sewell states that there were no convulsions, and he says that he thinks it probable that the patient "did not give the alarm until he found the acid working on him; at any rate, he walked from the table to the door and unlocked it after taking the poison, called for assistance, and then walking to the sofa, stretched himself on it."

STRYCHNIA.

26. *Poisoning by Strychnia—Recovery.*—A remarkable instance of recovery from a large dose of this poison has been recorded by Dr. Anderson.* A Mr. B. had suffered severely from tic douloureux, for which he was in the habit of taking 3½ grains of hydrochlorate of morphia at a dose. Upon the present occasion he bought, as he supposed, some fresh morphia, but which he observed had a yellowish cast. He took the same day 3½ grains of this powder, and observed that it had a very bitter taste. Soon afterwards he experienced numbness in the back of the legs, which he referred to cold. However, he left his home, and proceeded a short distance on business, the same sensation continuing, with a general feeling of indisposition. The numbness was soon accompanied by a sort of dragging of the legs, so that "he had to put his hands at the back of his thighs in order to push his legs along." This was now about two hours and a half after taking the poison. This want of power, however, did not increase; but while describing his symptoms to a friend he suddenly lost his balance and fell backwards, and upon rising became more nervous and alarmed. He then experienced more difficulty in walking, and could not get on without support. He proceeded home, and, before stepping into bed, took a *second* dose of the same powder. This was about five hours since the first. In less than ten minutes after this he was seized with tetanic spasms, affecting the legs and muscles of respiration. He was raised in bed, which relieved the sensation of suffocation, but the spasms of the leg, back, and chest continued, and followed each other every ten or fifteen minutes. The numbness and dragging of the muscles, which had been continuous during the first five hours, now left him during the intervals of the spasms, and he suffered only from exhaustion. His intellect remained clear throughout, and his hearing became very acute. The paroxysms lessened in frequency after a time, when they suddenly returned in all their former violence. The symptoms then ceased, about thirteen hours after the first dose was taken, and the patient, suffering only from extreme exhaustion, gradually recovered. Little or no medical treatment was adopted. Dr. Anderson afterwards clearly proved the nature of the poison by a careful analysis.

Dr. Anderson draws attention to the following points, as possessing interest: 1. The dose was well ascertained, as the patient weighed it himself. 2. The largeness of the dose. 3. The gradual and slow approach of the symptoms, and the postponement of the tetanic spasms until the second dose had been taken. How far the effects of the strychnia were influenced by the large doses of morphia, which the patient was in the habit of taking, it is difficult to say. But one case, related in the 'Journal de Pharmacie,'† records the fact that a student of dissipated habits swallowed, after drinking, 2 grammes (upwards of 30 grains) of this poison, and that tetanus did not follow until after a long time. Hence we may suppose that intoxication in this, and the habitual use of morphia in the former case, might have delayed the operation of the poison.

* Monthly Journal of Medical Science, Feb. 1848. † N. S., vol. x, p. 36.

27. In the 'Philadelphia Medical Examiner'* will be found a report of another case of poisoning by strychnia, taken by mistake for morphia. It is extremely interesting in many points of view; for, in the suddenness of the effects, the smallness of the dose, and the rapidity with which it proved fatal, it is without a parallel. The quantity supposed to have been taken was about a quarter or half a grain of the sulphate, and it appeared probable that the effects were manifested in less than five minutes, and that death occurred within twenty minutes from taking the poison. The symptoms were such as are generally observed in similar cases, but the tetanic paroxysms were remarkably severe.

28. *Poisoning by Aconitina.*—Dr. Golding Bird has communicated to the Medical Society of London† a case of this kind, which is peculiarly interesting, as being the first recorded case of poisoning by this vegetable alkaloid. A gentleman of high intellectual attainments and good station in society obtained, from his own prescription, two grains and a half of aconitina. It appears probable, from collateral evidence, that he must have fallen almost immediately upon swallowing the poison, and struck his head against the furniture. Either the poison or the blow must have caused violent vomiting, as the floor of his room was found flooded with vomited matter. When seen by Dr. Bird, eight hours after taking the alkaloid, the patient was fearfully collapsed, the surface was cold, sweating, and quite pale, and the heart's action almost imperceptible; the pupils acted, and there was no paralysis. His intellect was unimpaired; but he suffered from severe vomiting, which recurred every two or three minutes, and was performed by a sudden jerking action of the abdominal muscles, accompanied by a loud shout, probably dependent upon a sudden contraction of the diaphragm. Every attempt to swallow was followed by the spasmodic contractions so characteristic of hydrophobia, but they were not renewed by the sight of water. All these convulsive movements were, however, easily excited by simply touching him. The treatment adopted was a warm bath, with a turpentine enema, and a mustard poultice applied to the region of the stomach. The pulse became more perceptible towards evening, and the patient calmer; but as the spasms were still easily excited by any attempt to swallow, it was deemed advisable to administer an enema of beef-tea and yelk of egg, with ten drops of tincture of opium. He passed the night in a state of spasm and exhaustion, but his intellect was most perfect, and even vivid. After a hard struggle, he emerged from the effects of the poison, and was pronounced convalescent the next day.

This case offers a few points of interest in a toxicological point of view. The constant and repeated vomiting, the great depression of the circulatory system, as well as the spasmodic state of the muscles, are symptoms observable also where the root or extract of aconite have been used. Of course, as was to have been expected, all these symptoms were in this case considerably aggravated. But Dr. Bird's opinion, that the vomiting and hydrophobic state of the patient are characteristic of poisoning by this alkaloid, still requires confirmation. It may, however, be remarked, that where the root or extract have been administered to cause death, either complete insensibility, or stupor almost amounting to it, has been observed in many instances; while in the present case the intellect remained perfect, and even acute during a great portion of the time occupied by the operation of the poison. Lastly, when we consider the dangerous effects that are so apt to follow the administration of even small doses of the alcoholic extract or tincture, we cannot but be

* May 1847. † Lancet, January 1, 1848.

surprised at recovery where two grains and a half of the active principle had been taken. It was probably due to the early and severe vomiting.

29. *Poisoning by Camphor.*—A young man, æt. 20, of a robust constitution, swallowed, bit by bit, about two drachms of camphor. He soon became affected with headache, and, upon going into his room, stripped and danced, and endeavoured to jump out of window. A surgeon was sent for, who found him in a state of great excitement: his pulse was 180, and small; the conjunctivæ were injected, the pupils dilated; respiration hurried, with the breath having the odour of camphor; face pale; difficult and frequent micturition; the urine was clear, and strongly impregnated with the drug. Some opium was given him, and he vomited several pieces of camphor. He then became very drowsy, but was not allowed to sleep until the effects had in some measure passed off. He then slept for three hours, and awoke perfectly unconscious of what had happened.*

30. *Accidental Poisoning by Cannabis Indica, or Indian Hemp.*—Mr. Barrow, of Clifton, to alleviate the urgent symptoms of dysmenorrhœa, prescribed fifteen drops of the tincture of cannabis indica in three doses, administered at intervals of two hours. After the last dose the patient became drowsy, but no notice was taken of this symptom, as she had passed a restless night. In the evening she partook of her usual dinner and one glass of wine. During the meal she was incoherent in her speech, and shortly afterwards vomited. She now became unconscious, her extremities cold, her eyes wide open and staring, with contracted and insensible pupils; there were also strong convulsions, and involuntary twitchings of the muscles generally, which continued for a day or two, whether she were awake or asleep. The state of complete insensibility lasted for about a quarter of an hour. During the night there remained a partial degree of unconsciousness, and all the other symptoms in a milder degree. The patient gradually recovered under the use of stimulants. The alarming symptoms in this case would appear to have been due to some idiosyncrasy on the part of the patient, as the dose taken was otherwise disproportioned to the effects produced.

31. *Poisoning by the Seeds of the Datura Stramonium.*—The following case is reported by Mr. Stobo, of Tortola, West Indies.†

C. B., aged 5 years, a stout and healthy boy, the s[illegible] Musta parents, ate more than a drachm of the seeds of datura stramonium, taken from a fresh ripe apple; the seeds having been roasted over a fire. When seen, about an hour after, he was much excited, and rather delirious, clinging to the woman who had him on her lap, under the impression of some immediate danger His pulse was about 120; face flushed; eyes brilliant, pupils dilated; there were also convulsive movements of the limbs and neck, and thick frothy saliva issued from the mouth. A warm bath, calomel, and repeated emetics were administered; the stomach-pump was then applied, and an injection of soap and water thrown up the rectum. The matter evacuated both from the stomach and rectum contained many of the seeds. After this the symptoms appeared relieved, but the tossing of the limbs increased, and there was much flushing of the face; the skin also, naturally of a dull olive colour, became intensely red. He was then bled twice, which relieved him. He continued much in the same state for a day or so; a state of vigilance having succeeded that of terror. The restlessness wore away, and he recovered in the course of two days.

* Brit. Amer. Journal of Medicine, and Monthly Journal of Medical Science, Apr. 1848.
† Medical Times, October 9, 1847.

CARBONIC ACID.

32. *Double Poisoning by Carbonic Acid.*—Several interesting questions connected with poisoning by carbonic acid are illustrated by a case reported in the 'Annales d'Hygiène.'*

Godin and his wife kept a grocer's shop at Paris, and were in difficulties. On the 15th January, 1847, as they did not appear in their shop at the usual hour, one of the servants knocked at the door of their bedroom, and on Godin desiring him to enter, he perceived by the light of a Carcel lamp, which was still burning, a brazier filled with the ashes of charcoal, a bottle of spirits of wine, and a tumbler. Godin desired the servant to call his brother. The neighbours, informed of the circumstances, came in, and found the wife of Godin lying near her husband, and dead some hours. A medical man was called, who attributed the trifling indisposition of Godin to partial asphyxia, and partly perhaps to the alcohol. Godin stated that he and his wife had determined on suicide; that he had first filled the brazier with charcoal, and that he and his wife, having closed the chimney and the door, went to bed, leaving the lamp alight; that soon after, his wife complained of giddiness, and that he, in his turn, was taken ill; but that, about two o'clock in the morning, having come to himself, he found his wife dead and cold, and the charcoal burnt out; that he then got up, and by the light of the lamp, which was still burning, went into his shop for a bottle of spirits of wine, of which he drank three large glasses, with a view of hastening his death. The wife, 22 years of age, had died of asphyxia. There was no trace of violence on the body. The circumstances of the case as stated by Godin appeared to the magistrates so improbable, that they requested MM. Lassaigne, Charpentier and Bayard to institute experiments as tests of the history given by Godin. The three questions submitted to the reporters were—1st. The brazier being filled with the same quantity of charcoal as on the night of the 15th, and the Carcel lamp being lighted, and placed in the position where it was found, would that lamp go out, and how long would it continue to burn?—2d. Is it possible that, in a state of partial asphyxia, Godin could, as he affirmed, leave his bedroom, with the lamp, mount upon an open drawer, reach down the bottle from the third shelf, then go back to his bedroom, holding the bottle in one hand, and the lamp in the other?—3d. Is there any analogy between the symptoms of asphyxia and those which would be produced by three large glasses of spirits of wine?—*Answer to question* 1. The bedroom having been arranged exactly as on the night of the 15th, the brazier was filled with charcoal, in the presence of Godin, and of a female who had seen it charged on that night, the Carcel lamp was also charged with oil, and three candles were placed, the first on the window-sill, the second on the ground, and the third within sixteen English inches of the ceiling of the chamber. These arrangements being made, the charcoal, lamp, and candles were lighted, and the chamber closed, a piece of glass having been let into a hole in the door, to observe what passed within.

The door of the room was shut at 20 minutes past 3, when the lamp was burning brilliantly; the flame soon lowered, and at 40 minutes past 3 was diminished half its size; the circular edge of the wick blackened towards 20 minutes past 4, the lower part still retaining its original colour; at 28 minutes past 4, the right-hand side of the flame went out, and precisely at 5 o'clock it ceased to burn; at 45 minutes past 4 the upper of the three candles went out; at 5 o'clock, the two other candles continued to burn, though dimly. The door was now opened, when the charcoal was found covered with ashes, but still burning—exactly one half had been consumed;

* Considérations Médico-Légale sur l'Asphyxie, par le Docteur Henri Bayard; Annales d'Hygiène Publique, Jan. 1848, p. 148.

616 grains of oil had also been burnt. Thus it will be seen that the lamp burnt 1 hour and 40 minutes; the upper of the three candles 1 hour and 25 minutes; while the two others continued to burn dimly after the lapse of 1 hour and 40 minutes. On calculating the size of the apartment, and allowing for that of the furniture and the two inmates, the volume of air contained in the chamber was found to be 83 cubic feet, English. The quantity of charcoal burnt in this space, allowance being made for cinders, moisture, and volatile matters, amounted to 6106 grains, English; which in burning must have absorbed 16,283 grains, English, of oxygen, and formed 22,389 grains of carbonic acid, having a volume equal to 44,713 cubic inches, at 32° Fahr. of temperature and 30 inches of pressure. The quantity of carbonic acid, therefore, in the apartment at the time of the extinction of the lamp must have amounted to $\frac{27}{1000}$, and the air must have been composed as follows:—Nitrogen 79, oxygen 18·29; carbonic acid 2·71. It should be borne in mind that the temperature of the air of the apartment was considerably raised, which accounts for the upper candle being first extinguished. As at the end of 1 hour and 40 minutes, when the lamp went out, there was 2·7 per cent. of carbonic acid in the air, with perhaps a half per cent. of carbonic oxide, if we suppose the combustion to have been maintained with the same intensity, there would have been at the end of three hours 4·8 of carbonic acid; the lamp could not, therefore, have continued burning this time, as the experiments proved; and it is inconceivable that Godin could have lived in so deleterious an atmosphere. To render the experiments complete, the lamp was again lighted, and burned in a pure atmosphere for nine hours.

The reporters answer the *second question* in the negative. They were of opinion, from a careful examination of the actions which Godin must have gone through in order to possess himself of the bottle of spirits of wine, that he could not have performed them in his alleged state of partial asphyxia.

They are equally satisfied as to the answers to be returned to the *third question*. Had Godin swallowed the large quantity of spirits of wine which he pretended to have taken, he must have been poisoned; but so far from this being the case, he was found in a condition to reply to several questions addressed to him by the medical man called to his assistance.

The principal value of this case consists in the experimental inquiry to which it led, and the light thereby thrown on the quantity of carbonic acid necessary to extinguish flame. The extinction of the candle placed in the upper part of the room, while the others still continued to burn, is a point of some interest. The explanation of the reporters, however, appears to be defective, inasmuch as they attribute the circumstance solely to the greater expansion of the air in the higher parts of the apartment, overlooking the continual additions of carbonic acid, of a high temperature, which are being made to the upper strata of the air during the combustion of the charcoal.

ANIMAL IRRITANTS.

33. *Poisoning by Cantharides—Recovery.*—The following particulars are abstracted from the 'Medical Gazette,'* the case having occurred in the practice of Dr. Fisher, of Edinburgh.

On the morning of the 29th of April, Dr. Fisher was summoned to visit Mr. G., a gentleman æt. 26, and of a full habit of body. He had been seized with sudden illness during the night, and was found labouring under incessant vomiting and urgent thirst, accompanied by a burning pain in the throat and stomach. His features were expressive of great anxiety, the

* May 14, 1847.

tongue was swollen, and thickly coated, the pulse 130, weak and tremulous, and the matter vomited had a greenish colour and offensive smell. There was pain in the lumbar region, and frequent and painful micturition, and the urine was turbid and scanty. He was placed in a warm bath, and allowed to drink very freely of a strong solution of gum arabic, and fomentations were applied to the abdomen. Under this treatment, with opiates, he gradually recovered; the only symptoms requiring more active interference being those of the urinary organs.

It appeared that the cantharides had been taken by mistake for jalap, and that about two teaspoonfuls, mixed with water, was the quantity swallowed. The remaining portion of the powder, Mr. G. asserted, was equal to about half what he had taken, and this was found to weigh forty grains, and was of good quality. "From these facts, and allowing for a little adhering to the side of the vessel in which the patient mixed his dose, I think," says Dr. Fisher, "the quantity of cantharides swallowed may be fairly estimated as having somewhat exceeded a drachm." As vomiting occurred immediately upon swallowing the poison, the favorable issue was probably due to this cause; other cases, however, have been recorded, where a patient has recovered after taking ℨj of the powder.

34. *Poisoning by Sausages.*—The 'Journal de Pharmacie'* contains the following particulars of the effects of sausages upon three inhabitants of Wurtemberg. The sausages were composed of the liver and brain of pork, bread, and milk, and were seasoned with spice, and smoked. One of the three vomited, had colic, lost his sight, and died in ten days; the second, also lost his sight and voice, had coldness of the extremities, and was unable to swallow, unless with great difficulty, his eyelids also became paralysed, and at last he died. The third suffered from similar symptoms, but recovered.

Some contributions have been made, during the past year, to the subject of Toxicology generally. Of these the following are deserving of notice:

35. *Symptoms arising from Natural Causes, very similar to those produced by Poison, and followed by Death.*—Dr. Letheby has communicated to the 'Pharmaceutical Times'† several cases of internal hemorrhage, arising from natural causes, in which the symptoms and mode of death were very similar to those caused by poison. In those cases "the attack is sudden; there may be great pain in the abdomen; a constant and violent sickness; then collapse and death—all occurring within a few hours, and supervening upon perfect health. The necessity, then, of a careful investigation in all cases where death has occurred under suspicious circumstances, and of an early post-mortem examination, are apparent.

Case I. M. A. C., æt. 29, married fifteen months, with regular catamenia, a few days before her death complained of pain in the lower part of the abdomen. On the morning of Thursday, March 13th, after partaking of a hearty breakfast, she was seized suddenly with severe pain in the abdomen, and became sick. A surgeon was sent for, who exhibited opiates, and applied a mustard poultice to the abdomen. At the next visit, about two hours afterwards, he found her with a pale and anxious countenance, blanched lips, dilated pupils, cold extremities, and small pulse. There had been incessant vomiting, and she had complained of urgent thirst. After the exhibition of stimuli, she dozed off, and died about five o'clock. She expired without the least struggle, about nine hours after the first seizure.

Some suspicion being attached to the case, Dr. Letheby was called upon to make a post-mortem examination. This he did two days after death, and

* Fevrier 1848. † January 9, 1847.

found the surface and features quite blanched. The heart was flabby and empty, and the lungs natural. The abdomen was dull and fluctuating upon percussion, and upon opening it about a pint of reddish serum escaped, and a large clot, weighing two pounds, was found beneath the great omentum, and extending into the lower part of the pelvis. The source of this hemorrhage was found to be the left fallopian tube, which had given way, having been over-distended and rent by an arrested ovum. All the other organs were healthy, the stomach nearly empty, and no trace of poison could be discovered.

Case II. A. M., æt. 31, married, and the mother of three children, miscarried about three months before her death. Since that time she had occasionally complained of pain in the left side of the abdomen. After her dinner, on January 27th, she was suddenly seized with a violent pain in the abdomen, and in a few minutes she began to vomit, and this continued, at intervals of ten minutes, for nearly two hours. Her medical attendant saw her about four o'clock the same day, and found her in a state of extreme depression, with symptoms similar to those observed in the last case. Stimulants were given, but syncope coming on, she gradually sunk, and died about twelve hours after the commencement of the illness. The post-mortem appearances were similar to those presented in the first case; for in this also the cause of death was internal hemorrhage from the ruptured left fallopian tube.

Case III. E. W., æt. 27, married, and had borne one child. She had been well up to the morning of her attack, when she was suddenly seized with pain in the abdomen. Sickness and collapse then occurred, and she died ten hours and a half from the seizure. The cause of death in this case also was internal hemorrhage, due to the rupture of the right fallopian tube. No traces of poison were detected in the stomach or its contents.

In remarking upon these cases, Dr. Letheby says, "that if the inquiry be instituted directly after death, there will not be any difficulty in tracing the cause, as it will be discovered by the post-mortem examination; not so, however, if a long time has been allowed to go by. We can suppose a case, for example, in which suspicion is not aroused until some months have elapsed, and then we have not the positive evidence of the post-mortem inspection to clear it up. Decomposition may have removed every trace of the cause of death, and now we must rely upon the symptoms and [illegible] in the manner of their accession. If a woman, when did she menstruate last? How was she seized? What was the character of the vomited matter? Were there great faintings before death? Did she look pale? And did she die without struggle, or coma or delirium? And, after death, was there the same blanched appearance of the countenance, the lips, and the mouth? These are the chief points to be sought into; and out of them, together with the absence of a mineral poison in the body, we are to frame an opinion. Arsenic, and oxalic acid, and bichloride of mercury, and even hydrocyanic acid, and the mineral acids, and the alkalies, may produce symptoms somewhat like the preceding; but then the vomited matter would be discoloured or bloody(?); and in the case where a metallic poison had been used, it would be readily detected in the body while any of its tissues remained. I do not know of any organic poison, whose effects would at all simulate those arising from hemorrhage; in opium, where the approximation would be nearest, there would be profound coma."

The above cases, as well as others alluded to in the same paper, are valuable, as clearly demonstrating the necessity of a medical opinion in all cases where death happens either suddenly or after the occurrence of suspicious symptoms.

36. *A Review of the Various Antidotes.*—A paper on this subject will be found, by M. Bouchardat, in the 'Nouvelle Encyclographie des Sciences Médicales,'* in which a review of the whole system of toxicology, as far as regards the application of antidotes, is taken by the author. As there does not seem to be much new matter in the essay, the reader is referred to the paper itself.

With regard to the mineral acids, he recommends the exhibition of magnesia, suspended in water, to counteract their effects; and the after administration of a solution of bicarbonate of soda, with a view of forming a soluble salt with the acid, so as to render it capable of absorption by the blood.

With regard to arsenic, he strongly coincides with M. Bussy on the efficacy of magnesia in cases of poisoning by this substance.

In poisoning by the vegetable alkaloids, opium, and the narcotico-acrids, he believes that he has employed with success a mixture of about three grains of iodine, and six grains of iodide of potassium, in about a pint of water, of which a small glassful is to be taken from time to time. But he does not recommend it to the exclusion of all the usual means of combating the effects of these poisons, nor does the modus operandi of the antidote appear very obvious.

37. *Detection of Poisons in the Urine.*—Dr. Letheby† has been led to inquire whether the various poisons might not be eliminated by the kidneys, and if so, whether their existence in the urine might not furnish a hint for the treatment of cases of poisoning; and, thirdly, whether their detection in the renal secretion would not supply evidence of a valuable character for the guidance of the medical jurist.

He has detected all the mineral acids and oxalic acid in the urine as well as soda, potassa, and ammonia, nitrate of potassa, iodide of potassium, sulphate of magnesia, &c. and some of the salts of arsenic, lead, mercury, copper, iron, and silver. With regard also to the organic poisons, he has found that their active principle (in case of opium, belladonna, hemlock, aconite, &c.) would in part pass through the system and appear in the urine unchanged.

With regard to the second question, he found that diuretics were of great value in eliminating poisons administered to animals, and that they assisted considerably in their recovery.

The third question was an important one, as the urine might be the only secretion at the disposal of the chemist; the evidence also deduced from it might be of a positive and satisfactory kind; the poisons are also more readily detected in it than in the tissues, and they exist there to a larger amount than in any other part of the body.

The conclusions to which he has arrived are these: 1st. That many poisons are absorbed into the circulation.

2d. That these poisons are eliminated by the kidneys, and can be detected in the urine, either by their chemical or physiological reactions.

3d. That these facts, together with others, from experiment, point to the value of diuretics in the treatment of cases of poisoning.

4th. That it is possible to obtain, from an examination of the urine, some of the most valuable and certain evidences regarding the administration of a poison.

5th. That we should not omit to examine this secretion in every case of suspected poisoning.

38. *Test of the Presence of Minute Quantities of Alcohol.*—As the determination of minute quantities of alcohol is a chemical point of some importance in judicial cases, the following plan is proposed.‡ The fluid to be tested,

* Fevrier 1847. † Lancet, Jan. 23, 1847.
‡ Monthly Journal of Med. Science, and Pharmaceutical Times, July 17, 1847.

if coloured, or a mixed one, is to be distilled in a water-bath until one third passes over. Should the liquor contain any acetic acid, this should be saturated, previous to distillation, by carbonate of soda, in order to remove the odour of vinegar, which might interfere with the subsequent test. Into the distilled fluid should be dropped a crystal or two of chromic acid and the liquor stirred. If the smallest quantity of alcohol be present, the green oxide of chrome will begin to be disengaged, and at the same time the smell of aldehyde is distinctly perceptible. By means of this test it is possible to distinguish a drop of alcohol in an ounce of water. Bichromate of potassa and sulphuric acid will answer sufficiently well, if chromic acid be not at hand. The simplest way to apply the test is as follows: drop a few grains of powdered bichromate of potassa into a small flat glass (which tapers to the bottom) containing the solution to be examined, and add a few drops of oil of vitriol. If alcohol be present, the green oxide is perceptible on the surface of the undissolved salt, and the odour of aldehyde is easily recognised.

39. *Action of Poisons.*—Mr. J. R. C. Walter, in speaking of a poisonous leguminous plant from Swan River, New South Wales,* says, that "when the seeds fall on the ground, the wild pigeons greedily feed and fatten on them; if the crops of these pigeons, containing the seed, be eaten by dogs, they die, yet the pigeons themselves, when dressed, are good food, and at that season are eaten in large numbers by the settlers. The flesh of sheep and cattle that have died from eating the plant, is poisonous if eaten raw by dogs, but when cooked, either by boiling or roasting, it ceases to be poisonous." A report on the poisonous action of this plant, by Dr. A. Frampton, is appended to Mr. Walter's paper.

§ II.—*Infanticide.*

40. *Sinking of the Lungs in Water no Proof of Still-birth.*—Dr. Davies, of Hertford, has published the following remarkable case, as evidence "that the sinking of the lungs in water, either wholly or divided into parts, is not an absolute proof that a child has been born dead."†

On the 27th November, 1847, the body of a fœtus, which had been found buried in a garden, was brought to Dr. Davies. The body was thirteen inches long, the eyelids were adherent, the testicles had not descended, and it weighed one pound and three quarters. From these and other particulars, it was supposed to have arrived at between six and seven months of utero-gestation. The lungs were firm, like liver, and sank, both wholly and in parts, when put into water. The right lung was of a dark mahogany colour, but the upper lobe of the left lung was of a lighter hue than any other part of the lungs, and this, also, sank in water.

An old woman, who was examined at the inquest, stated that she was sent for to the mother, and that when she arrived she found the child, with the placenta attached to it, in the close-stool, and she noticed that the child moved its arms. She then wrapped it up, with the placenta, in flannel. It continued to move its limbs for *ten minutes*, but it uttered *no cry*. It was not separated from the placenta until it had ceased to move.

This case affords a distinct proof that a child may be born alive, and yet that after death the lungs may be found to sink in water. In the absence of evidence of any very distinct and effectual effort to inspire, it is to be regretted that the upper lobe of the left lung, which is described as being of a lighter

* Pharmaceutical Journal, vol. vi, p. 311. † Med. Gaz., Dec. 10, 1847.

hue than any other part of the lung, was not carefully examined, with a view of ascertaining whether or not the air-cells were developed. If no developed air-cells had been discovered, the case would have been very valuable, as proving the possibility of a child having been born alive, and continuing to live several minutes, without breathing—a possibility which it is of much importance to establish. It is obvious that the lighter hue of the upper lobe of the left lung could only have been due to the contact of air with the external surface of the lung, or to its admission within its texture. If the former alternative were the true one, other portions of the lung ought to have undergone the same change; the latter alternative, therefore, would appear the more probable. In which case we should have an additional example of respiration so imperfect as not to render buoyant even the portions of lung which have received air. It is probable that these cases are more numerous than is generally supposed.

41. *Fracture of the Parietal Bone—the result of Violence or Accident?*— The following case is interesting for the satisfactory manner in which the question has been answered.

Dr. Wharrie* was called upon to examine the body of an infant which had been found buried secretly at Calder. According to the mother, who was unmarried, but who had borne three children, she had undergone a severe labour, extending over three days, and that no one was with her at the birth of the child except her mother, whom she considered as capable of doing all that was required. The child, according to the account of its mother, and the neighbours, who came in after the delivery, was stillborn, and was afterwards secretly buried. It was, however, discovered about a month after this time, and the matter properly investigated. The body of the child [illegible]ated no external injury, but the cranium, near the posterior fontanelle, was swollen and puffy, and when pressure was made upon the forehead, blood issued from the right nostril. The body exhibited signs of incipient putrefaction. The child weighed seven pounds, and measured 21 inches. Upon opening the chest, the lungs were found of a dark colour, with sharp edges, and occupying but a small space at the posterior part of the chest, and not covering the heart or pericardium, and the diaphragm was arched upwards. The lungs did not crepitate at all, and when placed in water readily sank, and all the pulmonary vessels were found empty. The foramen ovale was open, and the right cavities of the heart devoid of blood. Upon examining the scalp, a small quantity of blood was found extravasated beneath the pericranium at the part where the scalp felt puffy, as well as a small amount on the right side. Upon removing this, a fissure was seen at the edge of the left parietal bone, close to the line of the sagittal suture, and near the posterior fontanelle. There was no depression or discoloration of the scalp at this part, or any other sign of a blow having been inflicted. The brain was soft, and there was slight extravasation in its substance.

From these appearances, Dr. Wharrie concluded, that the child had been born at the full period, and that it had not respired, even feebly; that the immediate cause of death was simply the violent contractions of the uterus, or, possibly, the prolapsus and consequent compression of a portion of the umbilical cord. There was, therefore, no evidence of infanticide, nor, as it afterwards appeared, of concealment of pregnancy.

42. Another case, bearing upon this point, is quoted from a recent number of the 'Gazette Médicale de Paris.† The body of a child was exhumed for

* Monthly Jour. of Medical Science, and Med. Gaz., January 1847.

† 11 Mars, 1848.

examination, its death having been connected with suspicious circumstances. The mother's statement was, that suddenly, while sitting near the fire, she was seized with labour-pains, and that while endeavouring to reach the bed, the child was expelled, and falling upon the floor, injured itself in the manner hereafter to be described. The midwife stated also that the child died about four hours afterwards. It could not be ascertained whether the umbilical cord had been broken at the moment of birth. It should be stated that the mother was a primipara, aged 21, and that the floor of the room in which the delivery took place was made of planks, which were worn into holes in some parts, and covered with lime and gravel. The body of the infant was that of a female, strong, stout, and well formed; with a bandage round the abdomen, covering the umbilical cord, which was firm, dry, and half an inch long, with an irregularly-cut surface. Over the middle of the left parietal bone there was a stellate wound, and a rounded layer of the scalp, adhering only at its anterior and exterior margin, covered the wound. The bone was bare in this part, and the pericranium partially detached. An extensive ecchymosis raised the scalp from the cranium, and the bones were infiltrated with blood; otherwise the cranial bones were healthy. On the inner surface of the cranium, at the part corresponding to the external wound, there was a red discoloration and a fissure, and considerable effusion of blood between the hemispheres. The brain, otherwise, was healthy, as were the heart and lungs, though a small extravasation was found also on the convex surface of the liver. The umbilical arteries were quite open, and divided near the umbilicus, and the stomach held a clear liquid, in which were observed a few streaks of blood.

The conclusions deduced from these appearances were: 1, that the wound in the head could not, by any means, be the result of a fall during delivery in the standing posture; 2, that the extent of the wound, the laceration, and the effusion beneath the membranes, proved violence; and 3, that death had been caused by violence, and partly, probably, by hemorrhage, and that the fissure in the skull confirmed the opinion as to violence. In answer to other questions, the medical witnesses stated that it was improbable that the mother had inflicted the injury during labour, or that the labour itself had been the cause, as the process was generally a gradual one; and, moreover, that it was unlikely that the mother should have done it after labour, as the state of exhaustion would prevent her.

The possibility of extensive injuries, attended with extravasation, and even fracture of the bones of the cranium, being inflicted on an infant during labour, has been sufficiently established by the observations of Dr. Schworer, of Fribourg. Where they are the result of violence, *purposely applied*, the extent of mischief is generally very much greater than in either of the above cases. Wherever the injury is slight, there is a fair presumption of accident.

§ III.—*Feigned Diseases.*

43. *Application of Ether.*—M. Bouisson, of Montpellier,* has entered somewhat minutely into the medico-legal use of ether inhalation. The cases in which he recommends its employment are those of feigned deafness, dumbness, stammering, and contraction of the back or limbs. After quoting M. Baudin's case (see 'Abstract,' Vol. V, p. 366), he adds, from his own experience, a case of feigned contraction and atrophy of the muscles of the throat readily detected by the use of ether. The atrophy was produced by the application during the night of a tight bandage. The author points out at some

* Gazette Médicale, 21 Août, 1847.

length the bad use that may be made of ether inhalation by non-professional persons, and quotes from the *Presse* newspaper a revolting case of rape committed by a dentist, who employed the ether for professional purposes.

§ IV.—*Unsoundness of Mind.*

44. *Is Consciousness of Right and Wrong a just Test of Partial Insanity?*—The plea of insanity in criminal cases has been lately examined by Dr. Robertson, of Yarmouth.* The following is an abstract of the conclusions at which he has arrived.

Under the term partial insanity, as opposed to dementia and idiocy on the one hand, and to mania on the other, are included the following varieties:—monomania, moral insanity, and instinctive insanity. The existence of the latter, however, is not recognised by the law of England.

1st. *Monomania, or partial derangement of the understanding.*—This variety is characterised by the presence of an intellectual delusion or hallucination, which leads naturally to false deductions and to insane conduct. A person so affected may, however, betray no symptoms of mental derangement on a subject unconnected with this erroneous impression. Dr. Robertson, however, does not agree with Dr. Conolly that the disease is thus limited in a large proportion of such cases, but states that a further examination of the phenomena of the disease will show that there are present a series of delusions having reference to the patient himself, or his friends, and that though he can argue reasonably and converse rationally on all subjects, yet that there generally exists a morbid state of the moral principle or conscience, which state is evinced by the perversion of one or more of the desires or affections, a perversion existing prior to the manifestation of any intellectual disorder. The delusion, then, is but the progress of disease in a mind already disordered.

This view, that the primary disorder in monomania is disease of the moral principle, involving the loss of consciousness of right and wrong, as evinced by perversion of one or more of the moral feelings, is corroborated by the testimony of Pritchard, Ray, and Georget, and also by an analysis of the progress of the healthy mind to intellectual misgivings and doubts as to the truth of Divine revelation.† In this, as in monomania, conscience first ceases to be the regulating principle of the character, and from this perversion of the moral principle flow inventions of the mind, which in their turn become the regulators of its emotions.

The order and succession of the morbid phenomena, above sketched, are well illustrated in the case of William Stalker, who was tried for the murder of his wife at the Cumberland Lent Assizes, February 1847,‡ in which the supervention of intellectual delusions was preceded by disease of the moral principle.

2d. *Moral insanity.*—This form consists in morbid perversion of the desires and affections, unattended by disorder of the intellectual faculties. In this, as well as in the case of monomania, the influence of the moral principle or conscience has been neglected, or is torpid or non-existent. Persons thus affected may be enabled to reason and support an argument upon any subject within their sphere of knowledge, and they may often display great ingenuity in giving reasons for their eccentric actions, and in accounting for and justifying their existing state of moral feeling. "In one sense, indeed, their intellectual

* The Edinburgh Medical and Surgical Journal, No. 172, July 1847.
† Abercrombie's Moral Feelings, Lond. 1846, pp. 116 *et seq.*
‡ An account of this case is appended.

faculties may be termed unsound: they think and act under the influence of strongly excited feelings, and persons accounted sane are, under such circumstances, proverbially liable to error, both in judgment and conduct."*

This loss of power of the moral principle, evinced by the disordered action of one or more of the desires or affections, is followed after a time by weakness of the intellectual faculties, by which the sufferer becomes unfit for the discharge of the duties of life; his inability to appreciate moral guilt frequently rendering him a dangerous member of society. An instance of this form of insanity is seen in the case of John Howison,† who was tried at Edinburgh in 1831 for murder, and executed, and thus "fell a victim to ignorance."

Conclusive evidence of general perversion of the moral feelings, or disorder of one or more of the affections or desires, therefore "as clearly proves the loss of consciousness of right and wrong, annulling thereby criminal responsibility, as total loss of the intellectual faculties, or disorder of one or more of them, proves that the dictates of reason have ceased to exert their influence."

3d. The third variety of partial insanity is that termed *Instinctive Insanity*. This form is characterised by a sudden impulse to the commission of crime, seizing one whose intellectual and moral powers are alike healthy. In this form, there exists a knowledge of the impulse as well as a full appreciation of the extent of the guilt incurred, together with a striving against the impulse. The volition is here also diseased, and acts in opposition to the dictates both of judgment and the moral principle. A person thus affected "ne présente aucune altération appréciable de l'intelligence ou des affections. Il est entrainé par un instinct aveugle, par quelque chose d'indéfinissable qui le pousse à tuer."‡ Though this form is not recognised by our laws, yet persons labouring under it have been acquitted, when indicted for murder, on the plea of insanity.§

45. *Plea of Insanity—Case of William Stalker—Acquittal.*—William Stalker was tried at the Cumberland Lent Assizes, 1847, for the murder of his wife.‖ From his history, it would appear that, for some months previous to the murder, he had become unsettled and inattentive to his affairs, which state of mind had been attributed by his friends to disappointment with regard to a will. He became gradually more and more unsettled, and conceived a dislike to various members of the family, and on one occasion threatened the life of his medical attendant. On another occasion, he even mixed arsenic with the food of his family and servants. After this he was sent to the Cumberland Asylum, where he continued about six months, when he was removed, in opposition to the wishes of his medical advisers. On his return home, he began to conceive ungrounded jealousy against a man who had made honorable proposals to his daughter, and soon began to exhibit hallucinations. On the 29th of December, 1846, he returned home, and went into the adjoining farm in search of his wife. His son returned the same night and found his mother dead on the floor of the farmhouse. William Stalker was found the next day hidden behind a holly-bush, and, after attempting to escape, surrendered and confessed the murder, nor did he even vary in the story. On being informed by Baron Alderson that he stood charged with the wilful murder of his wife, he interrupted his lordship, and said, "Na, na, not wilful, not wilful, my lord." All the witnesses concurred in the opinion,

* See Abercrombie, op. cit. † Edinburgh Law Journal, No. 6. ‡ Esquirol. Des Maladies Mentales. § Case of Martha Brixey, Times Newspaper, 17th May, 1845. ‖ For a full account of the case, see Dr. Robertson's paper, in Edinburgh Med. and Surg. Journal, July 1847.

that he was not in a position to distinguish right from wrong, and the jury accordingly acquitted him.

46. In the following case, also, the plea of insanity was successfully set up· Mary Sweetlove, a married woman, æt. 37, was charged with the murder of her infant son by drowning, at Sandwich. It appeared from the witnesses, that the prisoner and her family, during last winter, had been in very reduced circumstances, and, being unable to pay her rent, the landlord intimated that he could not allow her to remain in her lodgings any longer. This preyed so much upon her mind, that it appears she left the house with her son, and, being driven to desperation by the prospect of being turned from her home, she threw the boy into the dyke, where the body was afterwards found. It was also proved that, for some time previous to this affair, the conduct of the woman was such as to lead to the conclusion that her mind was affected. After the melancholy occurrence, she remained for some time in a wild and excited state. She confessed the murder; but was acquitted on the ground of insanity.*

47. *Double Murder—Plea of Insanity—Conviction.*—The following trial took place before the court of assize, at Ardèche. J. J. A. was accused of having murdered his wife and father-in-law, under the following circumstances. The prisoner was of a violent temper, and had been at variance with his father-in-law, but reconciliation having taken place, he and his wife went on a visit to his house. The next day, while the father was engaged with business, the prisoner and his wife went out into the garden; the latter, feeling fatigued, sat down at the margin of a pond, when her husband seized her, and, inflicting three wounds with a knife (which he had sharpened over night), threw her into the water. He then went into the house, and urged his father-in-law to come out with him into the garden, which he did, but he had hardly entered the court, when the accused twice stabbed him, and, throwing the knife on the roof, hid himself in a dark vault. Both his victims died.

From the time of his arrest his conduct was that of a deranged person, and, after refusing for a long time to answer any questions, he confessed the murder, saying, that he did it under the influence of an hallucination, excited by the sight of a chain worn by one of the officials, who had been engaged with his father-in-law. The plea of insanity was set up, and before the court he appeared calm and collected, and stated that he had no cause of complaint against either his wife or father-in-law; that he was in daily fear of the police, and that he had sharpened his knife to defend himself, and not to kill his relatives. One medical man had previously recommended him to be confined, but others considered the insanity feigned, and declined to pronounce any opinion on the state of his mind when he committed the crimes. The jury found a verdict of guilty, with extenuating circumstances.†

48. *Suicidal Mania.*—A melancholy case of this kind occurred towards the end of last year, in the person of Professor M'Cullagh, who destroyed himself by cutting his throat with a razor. The fatal act was committed during a period of despondency, following on close application to study. The evidence of Dr. Stokes and of Mr. West, a barrister, proved that the mind was deranged, though not to such an extent as to have attracted the attention of a careless and indifferent observer.‡

* Dublin Medical Press, April 12, 1848. † Gaz. Méd. de Paris, 7 Novembre 1846, Gazette des Tribunaux, and Month. Jour. Med. Science, Jan. 1847. ‡ Dublin Medical Press, Nov. 10, 1847.

§ V.—*Sudden Death.*

49. *Question of the Validity of a Contract.*—A case, remarkable for the difference of opinion expressed by the medical witnesses, occurred about a year since in France.* The investigation took place in consequence of the deceased having bought an annuity ten days before her death; which contract was attacked by parties interested in the matter, as the Code Civil declares that contracts become null and void, if made by persons affected with any illness which proves fatal within twenty days from the date of the contract.

The subject of the inquiry, a female, aged 73, had enjoyed good health until the month of May 1839, when some cutaneous disease developed itself on her right arm, where an issue had formerly been. The issue had dried up, and another was applied to the arm, which also cicatrized quickly. The cutaneous disease disappeared, and the deceased gradually became blind, thin, and weak. On the 16th August she went to church, ate some vegetables during the day, and talked in the evening with her neighbours. The next morning she was found dead in bed, as though asleep.

The questions proposed to the medical witnesses were—1st. Was the deceased suffering under any malady at the time she made the contract? 2d. If so, was the illness of which she died the termination of that with which she was affected at the time of the contract?

Five medical witnesses, consulted by the party who denied the validity of the contract, answered both questions in the affirmative, stating that death resulted from apoplexy, the natural consequence of her former illness. Seventeen medical men, on the other side, considered that the deceased was ill at the time of the contract being made, but that she, in all probability, died from an attack of apoplexy, which was independent of the primary affection. This being insufficient, MM. Récamier, Cayal, and Devergie were requested to state their opinions; which were to the effect that the deceased was suffering from illness at the time of the contract, and had been so for some time previously; and that, in reference to the second question, they were unanimous in considering her sudden and unexpected death as the consequence of the chronic malady with which she had been affected for the last three months.

The decision of the court is not stated in the periodical from which we have quoted. The case is given chiefly as an illustration of the difference of opinion prevailing among the large number of medical witnesses who were examined.

§ VI.—*Survivorship.*

50. *Presumption of Survivorship.*†—On board the steam-boat Pulaski, which perished at sea in the month of June, 1838, was Sylvanus Keith, his only child, Caroline Coye, her husband, George Coye, and their only issue, Caroline Coye. Sylvanus Keith was about seventy, Mrs. Coye about thirty-three, her husband about thirty-seven, and their child about eight or nine years old. The judge of probate directed a distribution of the personal estate of Sylanus Keith to be made by his administrators among his nephews and nieces, as his heirs at law.

The administrator of the estate of George Coye, and the next of kin of the infant Caroline, being the brothers and sisters of George Coye, appealed against

* Gazette Médicale de Paris, 24 Avril, 1847.

† Coye v. Leach, Metcalf's Massachusetts Reports, in American Journal of Medical Science, Jan. 1847.

the decree of the judge of probate, as there was a possibility of the infant having survived her parents or grandfather, and if so, the former decree must be set aside.

Judge Dewey, of the Supreme Court of Massachusetts, delivered his opinion, to the effect that as there was no evidence to show which of the parties survived, the question must be settled on independent grounds. After mentioning the provisions of the civil law, according to which the daughter would be presumed to survive the father, and the child, if above the age of puberty, its parent, he went on to say: "But no such doctrine has any sanction in our system of jurisprudence, either as a principle of the common law, or as enacted by legislative authority. Under these circumstances, the court was of opinion that the weak age and strength of the child was less adapted to sustain her in the struggle for life than those of her mother or grandfather. As to these latter, as the greater age of the one was opposed by the weaker sex of the other, there was no presumption in favour of either. He then confirmed the former decree of the judge of probate, and placed the distribution of the estate in the hands of the administrators of Keith, to the exclusion of those who claimed as heirs of the infant Coye.

§ VII.—*Suffocation.*

51. *Suffocation caused by Pressure on the Mouth and Nostrils, followed by Submersion.*—The following case possesses some points of interest. On the 25th of June, 1847, the dead body of a young man was taken out of a well, into which, according to his father's account, he had thrown himself. Some doubt having been expressed as to the truth of this statement, the body was examined by the *juge de paix* and an *officier de santé*, who, on a superficial examination, finding on the body no marks of violence inflicted during life, came to the conclusion that the deceased had committed suicide. The body was accordingly buried; but fresh suspicions having been excited, it was ordered to be disinterred, and submitted for examination to Dr. Cisseville, who, in addition to several bruises on the extremities, which might have been occasioned by the fall of the body, or during its extraction from the water, discovered coagulated blood at the back of the head, a bruise immediately below the malleolar process of one of the lips, and an erosion on each *ala nasi.* On carefully inspecting the face, Dr. Cisseville found that the external surface of each nostril was the seat of an abrasion visible to the naked eye, and still more so by a lens. The injury on the right side was more strongly marked, and accompanied by a slight solution of continuity. These injuries were obviously not post-mortem changes, nor could they have been the effect of a fall; they could only be reasonably attributed to the pressure of the finger and thumb, the latter of which had occasioned the more severe injury, accompanied by a scratch of the nail on the right side. It was the opinion of the examiner that two persons had combined to destroy the deceased. Some hemorrhage had taken place from the nose. The air-passages contained no water or froth—a circumstance, in the examiner's opinion, favoring the supposition of death before submersion. The absence of cerebral congestion in a body taken from a well nearly 150 feet deep, confirmed the view taken by Dr. Cisseville, and adopted by the jury, that the deceased had been murdered by two accomplices in guilt, the father and uncle.*

52. *Suffocation by Pressure on the Mouth and Nostrils.—Burns inflicted after Death.*—A second case, equally interesting with the foregoing, but where the objects surrounding the body were so disposed as to simulate death by

* Gaz. Méd. 4 Septembre, 1847.

burning, is recorded by Dr. Henri Bayard.* A female, named Dalke, 70 years of age, lived alone in a small apartment, attended by a woman who left her every evening. On the 22d of December, 1846, she was found dead in her bed, the window-curtains drawn, and the shutters closed. There was neither fire nor smoke in the room, but a very disagreeable odour. The deceased lay on an iron bedstead, the mattress, pillows, and bedclothes undisturbed, and the body in a position which proved that she had made no attempt to get out of bed. She lay on her back, with her head on the uppermost of two pillows, the legs close together, directed towards the side of the bed, and the knees bent. The arms lay close to the sides, the right hand, with the fingers flexed, placed upon the chest, the left hand, also contracted, was raised towards the face. The upper surface of the mattress, at the head of the bed, was burnt, as was also the upper side of the pillows; the wool of the upper mattress was burnt to a cinder, while that of the lower one was scarcely touched. The sheets were burnt on the left side of the bed.

It was, at first, supposed that the deceased had been accidentally suffocated by the smoke arising from the burning of the mattress. The remains of a match, half consumed, were found near the bed; and to this the burning was attributed. Drs. Bayard and Coqueret were required to make an examination of the body, and to report upon the case. The examination of the body was made about fifty hours after death; it was in a perfect state of preservation, and still rigid. The body was covered with a cotton shift and flannel waistcoat, of which the sleeves and the left side of the body were burnt. The hair, the eyelashes, and eyelids had escaped, as also the skin of the face; the left arm, forearm, and hands were covered with burns, exhibiting dry vesications slightly raised above the surface. The edges of the burns were pale. From the left clavicle to the hip, the sides of the chest and abdomen were also the seat of burns with pale borders, and vesicles containing no serum. The upper eyelid of the left eye was ecchymosed, and blood was effused along the whole of the lower edge. There was also a slight bruise at the inner angle of the eye. On the left cheek there were three parallel linear excoriations, extending obliquely from within to without, and from above to below, separated from each other the third of an inch English; the upper excoriation was half an inch long, the second and third about three quarters of an inch. In form and appearance these excoriations resembled the scratches of a nail; at the level of the third excoriation the skin had the appearance of parchment, to the extent of three quarters of an inch; a little below, it was turned yellow by the smoke. The tongue was protruded between the teeth; the lips bruised; the mucous membrane abraded transversely; the edge of the right nostril and of the septum of the nose were also bruised, and presented, by their violet tint, a striking contrast to the parchment-like appearance of the skin in the situation of the burns. On cutting into these parts, it was clear that these appearances were due to an infiltration of blood into the cellular tissue. The down and hairs covering the upper lip, the opening of the nostrils, and the chin, were neither burnt nor singed. There was no trace of violence or of burns on other parts of the body. There was no bruise or wound upon the head, no fracture of the bones, no mark of injury on the neck or chest. The internal appearances were as follows:—*Brain.* Great congestion of the membranes of the brain, and of its substance, which presented numerous bloody points; but there was no hemorrhage into the substance or ventricles of the brain.—*Lungs.* Internal surface of the trachea of a reddish-brown colour; the tube filled, in common with the bronchia, with a fine white froth, stained with blood; the tissue of the lungs was gorged with liquid blood, and there were

* Annales d'Hygiène Publique et de Médecine Légale, Jan. 1848, p. 141.

effusions of blood under the pleura. The *heart* contained very fluid blood. The *stomach* was distended by food partly digested. From the appearance of the food, the examiners estimated the time which had elapsed from the taking of food to the death at one hour at least, and three hours at the most. Neither the stomach nor intestines presented any trace of disease.

The examiners, as the result of their inspection of the body and bedding, and a careful consideration of all the circumstances of the case, arrived at the following conclusions:—1st. That the death of the widow Dalke was caused by asphyxia. 2d. That the bruises observed upon the lips, nostrils, and left eye, and the excoriations upon the left cheek, led to the conclusion that the asphyxia was by suffocation, produced by the pressure of the hand upon the mouth and nostrils. 3d. That the burns were inflicted after death.

The disappearance of the greater part of the valuables of the deceased confirmed the presumption that a crime had been committed. Six parties were accused; of whom two were condemned for the murder, and two others as accomplices in the theft.

The confession of the chief criminal confirmed the justice of the conclusions drawn by the medical examiners. According to this confession, the deceased was surprised in bed, and stifled by the hand; and the bed was set on fire, in order to encourage the belief in an accidental fire, and to efface the traces of the murder, committed two hours after the supper of the deceased.

§ VIII.—*Wounds.*

53. *Wounds from Firearms without Ball.*—Dr. Paul Swift, of Philadelphia,* has made an acceptable contribution to our medico-legal knowledge of this species of wound. His experiments were made with a view to the evidence he was called upon to give in relation to the following case;—William Simler, a miner, fired a pistol, charged with powder only, at Robert W. Pitt. Pitt staggered into the arms of his friends, crying out, "I am shot." Simler, thinking him frightened, but not hurt, said, laughing, "it was not loaded; it had no ball in it." A wound was inflicted on the fleshy part of the left hip, above and behind the trochanter major, about one inch in diameter, and four inches in depth; the integuments were destroyed, and the muscles presented a mangled, blackened mass: it bled but little. The lad went on well till the sixth day, when tetanus came on, and proved fatal on the seventh day. In the wound, after death, a minute fragment of woollen cloth was found about two inches from the surface, and the wound was blackened through its whole extent with grains of gunpowder. The wound was four times as large as that which the ball of the pistol would have caused. At the inquest there was much discrepancy in the testimony as to the distance at which the pistol had been held from the wound; the patient himself had expressed his belief that the pistol "almost touched him," while the witnesses differed from one foot to two or three yards. This difference is accounted for by the circumstance that the pistol was fired at night, in a place badly lighted, and in a moving throng of some twenty persons.

The following are the results of experiments made by Dr. Swift, and used at the trial, on an emaciated male subject, about 35 years of age, which had been preserved by corrosive sublimate, whereby the tissues were much hardened. The pistol, which was the same used by Simler, had a bore of about four inches long, and half an inch diameter. It was wadded with paper, and had an ordinary charge.

* Houston's Medical Examiner, March 1847.

16 §

Experiment 1. Fired twelve inches from fleshy part of hip, covered with one thickness of broad-cloth, and a twilled cotton cloth. Clothes torn, and skin abraded. Wadding on the floor on fire.—Ex. 2. Distance six inches. Part covered as before. Clothes torn, wadding lodged one inch and a half below the surface.—Ex. 3. Part covered as before. Distance two inches. Wound ragged, blackened with powder, and penetrating, one and a half or two inches, to the bone. Wadding immediately beneath the integuments, and somewhat on one side of the principal wound.—Ex. 4. Distance one and a half inch from the ribs of the right side. No covering of cloth. Wound penetrated the cavity of the chest, the wadding passing between the ribs through the intercostals.—Ex. 5. Distance one inch and a half. No covering of cloth. The integuments removed, wadding penetrated the chest, carrying away a portion of the rib.

—The duel which proved fatal to M. Dujarrier, and which in some of its circumstances reminds us of a late trial in England, has given rise to some questions, which M. Boutigny, the chemist, was required to investigate. A party present at the duel stated that on inserting his finger into the barrel of the pistol with which the fatal shot was fired, it was blackened, and it was alleged in defence, that this might have happened by the firing of a percussion-cap, with or without a charge of powder, with a view to try the pistol. M. Boutigny proves, experimentally, that after the firing of a percussion-cap, or even of ten percussion-caps in succession, the finger inserted into the mouth of the pistol is neither blackened nor stained; that the firing of an ordinary priming slightly soils, but does not blacken the finger; but that on firing a charge of powder, with or without ball, the finger is blackened, and the more so if the firing is repeated.* Some other questions of less interest are also examined.

54. *Lacerated Wounds of the Internal Viscera.*—One of the most revolting cases on record will be found in a recent number of the 'Annales d'Hygiène,'† with some valuable comments on the subject of *Plaies par Arrachement*, from the pen of Dr. Ambroise Tardieu. The husband of a poor woman, who had already several times caused her to miscarry, brought his crimes to a climax by forcibly rupturing the uterus, and tearing away a large portion of the small intestines. It appeared in evidence that she survived this severe injury about three quarters of an hour, which was regarded as so improbable, that Dr. Tardieu, with Professors Orfila and Cloquet, were requested to report upon the case. It appears that the female had sustained the following injuries:—A rupture of the upper part of the vagina and of the uterus, nearly four English inches in length; a loss of a portion of the substance of the womb; several rents in the peritoneum, large enough to allow the hand to pass into the cavity of the abdomen; the loss of the whole of the small intestine, with the exception of nineteen English inches at the pyloric extremity, and about three inches at the lower extremity; and the removal of a considerable proportion of the mesentery. From the torn appearance of the several parts, it was clear that the injury had been caused by some blunt instrument. The cavity of the abdomen contained a considerable quantity of blood. Dr. Tardieu, in discussing the question submitted to the reporters, illustrates it by citing several cases bearing more or less closely upon it, such as severe injuries of the brain consistent with long survivorship; a case observed by himself, in which a man survived a severe wound of the heart a quarter of an hour, and spoke up to the last moment; and a second case

* Annales d'Hygiène, Avril 1848, p. 392. † Janvier 1848, p. 157.

which came under his own observation, where an individual, who had received a wound which traversed the lungs, heart, and stomach, through and through, was able to descend a ladder, remount a second, and gain his room before he lost his consciousness. He then goes on to quote the familiar instances of insane suicides, who have wounded themselves several times in the abdomen, opened its cavity, drawn out the intestines, and mutilated them, without being interrupted by pain or immediately arrested by death; the case recorded by Professor Paul Dubois, of an apothecary, who, in a furious access of delirium, opened his abdomen and removed a portion of the mesentery, from which injury he recovered; another case, on the authority of Devergie, of rupture of the diaphragm, spleen, and small intestine, in the person of a carman, who afterwards completed a long journey, and survived eighteen hours; the well-known long survival of the horses eviscerated in the Spanish bull-fights; and the severe injuries received during delivery, and not immediately or necessarily fatal. The paper concludes with a recital of five facts bearing more closely on the case referred to by the author. The first was a case of forcible removal of the uterus, occupying three quarters of an hour, and fatal within *a few minutes* of its completion; the second was a similar case, followed by death in *two hours;* the third, also of the same kind, terminated fatally in *half an hour*, the efforts at removal having lasted one hour and a half; the fourth combined rupture of the uterus with that of the intestines, the efforts at removal lasted two hours, and the death happened at the end of *another hour;* the fifth case was one of inversion of the uterus, with rupture of the vagina and peritoneum; hemorrhage and death in *seven hours*. From the facts which he has collected, and the consideration he has given to the subject, Dr. Tardieu concludes that death, after the forcible removal of the uterus and a portion of the intestines, is not necessarily immediate, that it is not accompanied by excessive hemorrhage, nor even by complete fainting.

55. *Wound of the Heart—Death after* 78 *hours.*—The following case is narrated by Dr. Alexander, of Charlestown, U.S.*

The deceased, whilst engaged in a scuffle, received a blow on his back, which arrested his attention; he turned and pursued the man who struck him, but another man followed him, who, while in the rear, and on the left side of the deceased, was seen to strike him with his left hand, in which was an open knife. The deceased immediately put his hands to his side, and, exclaiming "I am a dead man," staggered a few steps and fell; there was but little external hemorrhage. He was taken to a neighbouring house, and died 78 hours after the infliction of the wound. On inspecting the body after death, two wounds were found upon the left side of the chest, one below the clavicle and over the second rib, which had arrested the instrument; this wound was seven eighths of an inch long, but of trivial importance. The other wound was over the fifth rib, three fourths of an inch from its junction with its cartilage; it was surrounded by a livid circle of considerable extent. Upon examining it with a probe, an indentation of the rib was perceptible, and upon opening the chest, the left cavity was found filled with bloody serum. There were also signs of acute inflammation of the pleura. The rib itself was severed, and the intercostal artery divided. This wound was found also to have entered the chest and pericardium obliquely, and to have passed entirely through the heart, about half an inch from its apex, opening and traversing the left ventricle, and wounding the diaphragm. There were a few ounces of bloody serum in the pericardium.

* American Journal of Medical Science, January 1847.

The instrument used in inflicting the wound was the large blade of a coarse pocket-knife, not more than two inches and a half in length.

56. *Death from a Wound in the Neck and Abdomen, and two Wounds at the wrist, dividing the radial and ulnar arteries.*—The following is narrated with many other interesting cases in the 'Revue rétrospective des Cas judiciaires dans l'Arrondissement de Metz.'*

The body of a man, from 25 to 30 years of age, was found dead in a wood. The state of the body was such as to lead the magistrate of the department to order MM. Isnard and Dieu to make a careful examination. From the condition of the body they concluded that the man had been dead from 10 to 12 days. They found on the anterior part of the neck a transverse wound, situated beneath the thyroid cartilage, the edges being smooth, as though made with a sharp instrument. The angles of the wound indicated that it had been made from left to right. It divided the skin, superficial fascia, cervical fascia, and some of the fibres of the sterno-mastoid muscle, but the jugular veins and carotid arteries on both sides were untouched. On the forearm of both sides, above the radio-carpal articulation, was seen a wound, which divided many of the flexor tendons, as well as the radial and ulnar arteries and veins; the wound of the right forearm was more contused, and the arteries on that side more completely divided than on the left. A superficial wound was also found on the abdomen, between the umbilicus and pubes, along the median line.

The clothes found on the person of the deceased did not present any cuts corresponding to any of the wounds, but many spots of blood were seen on them. A large knife, the blade of which was covered with spots of rust and blood, was found covered up in a pocket-handkerchief, and placed in one of his trousers pockets.

Were these wounds the cause of death? This question was answered in the affirmative, as the wounds of the radial and ulnar arteries were sufficient to cause death. Were they the result of suicide? From a careful examination of the case, this question was also answered by the examiners in the affirmative. The wound was from left to right, and was made apparently at one time or cut, circumstances almost invariably constant in cases of suicide (?). But had the deceased inflicted the wounds on his own forearms? Had there been but one wound, this would have been easily answered, but it was difficult to account for both. Nevertheless, as the flexor tendons were equally divided on the two sides, it was thought possible that, after having inflicted the greater wound on the left arm, he then repeated the wound on the other arm; which view was borne out by the fact that there was more contusion on the right forearm than on the left, as if that wound had been inflicted by a weaker and more tremulous hand. The order of the wounds would then seem to be as follows: first, he made the wound on his neck, that failing to kill him, he inflicted the wound in his abdomen, and finally, the wounds in his arms, in the order mentioned.

57. *Can a Blow on the Head by the Fist cause Death?*—Dr. Wharrie has published† a few cases illustrative of the fact that fatal results may follow severe blows on the head by the first. In the greater number of cases of this kind, it will be found that death has resulted not from fracture or depression of the cranium, but from the rupture of some vessel within the skull, and the consequent effusion of blood on the brain. It should also be borne in mind, that the blow is often complicated by a fall, which may be the immediate cause

* Gazette Médicale de Paris, No. 1, Janvier 1848. † Med. Gaz. July 30, 1847.

of mischief, by producing fracture of the cranium. The following cases are related by Dr. Wharrie:

Case I. Two carters quarrelled, and one struck the other a blow with his fist behind the ear, after which the latter fell down and expired directly. The body was inspected 24 hours after death, and the only mark of violence seen externally was a small scratch behind the left ear, from which a little blood had exuded. Upon removing the skullcap, there was a considerable extravasation of blood, extending over the surface of the brain, and entering between the convolutions. A small quantity was observed also in the ventricles, and at the base of the brain. The prisoner was tried for culpable homicide, to which he pleaded guilty, and was sentenced to three months' imprisonment.

Case II. A collier, when off work, quarrelled with a stranger, who was passing; blows ensued, one of which knocked him down, and he was carried home dead. Upon examining the body, Dr. Wharrie found the skin slightly scratched on the right cheek-bone, the nose, the tip of the right shoulder, and over the left collar-bone; there was also a very slight wound on the scalp over the left ear. On opening the cranium, all the vessels were found turgid, and in each lateral ventricle was a quantity of effused blood; and extravasation had also taken place at the base of the brain from rupture of the lateral sinus; the rest of the body was healthy.

Case III. A person, returning home at about ten o'clock at night with his wife and another female, was met in the street by a drunken man, who, being insolent, was immediately knocked down by a blow with the fist over the nose. Dr. Wharrie was sent for, and found the man alive, but supported in a sitting posture, with his nose bleeding. There was also a small bruise over the occiput, and the man was faint and insensible, which state was in part attributed to his drunkenness. He was taken home in a carriage, and died within 24 hours after the receipt of the injury.

At the post-mortem, a small contused wound was found extending about half an inch down the centre of the nose, but the nasal bones were uninjured; the skin round the eyes was discoloured, and the nostrils stained with blood. Towards the left side of the occiput, a small contused wound was discovered, and beneath the scalp at this part there was a quantity of extravasated blood. There was a fissure of the occipital bone (corresponding to the extravasation beneath the scalp), which extended four inches upwards from near the base of the skull, and was crossed about the middle by another running towards the left temporal bone, with a small fissure lower down nearer the foramen magnum, but there was no depression. At the site of these injuries, beneath the dura mater, there was an ounce of extravasated blood, as well as also on the right hemisphere (especially opposite the temple and ear), where the quantity was much larger. The opinion given in this case was, that the deceased had received a blow on the nose which occasioned a severe fall on the back of the head, causing fracture of the occipital bone and extravasation beneath.

The slight character of the external marks in all these cases, especially in the first two, is worthy of note. In cases of this kind, the medical witness should not forget the possibility of an internal fracture from violence applied externally.

58. *Attempt to Murder by pouring Melted Lead into the Ear.*—A case, interesting for the experiments to which it gave rise, is narrated in the 'Annales d'Hygiène,'* where this novel method of murder was attempted.

The mother of an idiot poured into his ear some melted lead while he was

* Octobre 1847.

asleep. The patient recovered; but the mother was put upon her trial, during which the following medico-legal questions were asked of the medical witnesses: Can melted tin or lead poured into the ear cause death? If so, why has it failed to do so in the present case? The following answers were made from experiments instituted on the dead body:

Tin, heated only to the fusion point, does not destroy the membrana tympani; but heated to a higher degree, the membrane is completely destroyed, and the metal enters the mastoid cells and the bony canals which open at the base of the cranium. Hence the medical witnesses concluded, that melted metal, heated to a high temperature, by entering the cranium, would cause death sooner or later. The reason why death did not result in the present case might, however, be due to the low temperature of the metal, the presence of cerumen, or to the struggles of the patient.

M. Boys de Loury, however, has repeated these experiments, but with different results. He ascertained that, in the dead body, hot fluid metal did not readily enter the ear at all, because of the resistance offered by the air in the cavity of the meatus; and that, when it was made so to enter, on no occasion did it enter the mastoid cells or reach the dura mater: and that, though it might cause severe pain, it was not likely to cause death.

59. *Method of Recognising Spots of Blood on the Clothes.*—A new method, proposed by M. Piria,* depends on the property that fibrin possesses of attaching itself to the texture of the clothes, and on the action of sulphuric acid on articles made of hemp or linen. The suspected texture is to be plunged into concentrated sulphuric acid, which dissolves out all the vegetable tissue, and leaves the fibrin forming a network, in which may be distinguished the impressions made by the texture on which the blood was fixed.

§ IX.—*Death by Starvation.*

60. The post-mortem appearances in two cases of death from this cause will be found narrated in 'The Dublin Medical Press,' March 17, 1847. The subjects were a man and woman who had died suddenly. The features of the female were contracted, the nose prominent, and the cheeks drawn in. The body was emaciated in every part; the spaces between the metacarpal bones were hollowed out, and all the internal organs completely anæmic. The fat normally present in the abdominal parietes was absent. The rugæ of the stomach were well developed, and that organ, as well as the whole of the intestinal canal, completely empty. The gall-bladder, as usual, was full of bile, and there was some ulceration of the intestinal glands at the lower part of the ileum. Both lungs were anæmic and emphysematous, and the left ventricle contained half an ounce of thin fluid blood.

The body of the male presented similar appearances. In both cases the bladder was empty.

§ X.—*Spontaneous Human Combustion.*

61. The 'Gazette Médicale'† quotes from the 'Union Médicale' the following case of alleged spontaneous combustion. On the morning of the 6th of January, 1847, the body of a man named Ch—— was found on fire in bed. A dense smoke filled the room. One who was present affirmed that he saw on the body of the deceased a small, lambent, whitish flame. All the bedclothes and clothes of the deceased were almost entirely destroyed. The bedstead was only partly burnt; there were no ashes, and very little vegetable charcoal, but

* Journal de Chimie Médicale, Mars 1846. † 4 Septembre, 1847.

some portions of animal charcoal having evidently belonged to the articulations. The other materials surrounding the body were scorched. It is said that M. C—— carried in his waistcoat pocket some chemical matches, and in the evening he had, as usual, placed at his feet a heated brick, which, before being wrapped in linen, had been slowly cooled by water thrown over it twice. He went to his room between six and seven o'clock in the evening. Two hours later, his son and daughter-in-law, passing his door, perceived nothing unusual; and it was not till the next morning that his grandson found him in the state which we have described. He was 71 years of age, and was neither very fat nor given to drunkenness. The weather had been very cold for some time, but there were no signs of an excess of atmospheric electricity. The body was found in its usual position during sleep. His son and daughter were suspected of having first murdered him and then burnt the body, in order to conceal all traces of the crime. Dr. Masson, who was ordered by the authorities to make the necessary examination, had the body exhumed. The coffin was found half filled. The body was folded in a white shroud. A cravat, nearly destroyed by the fire, and a fragment of a shirt collar, remained round the neck. The hands, burnt to a cinder, were attached to the forearm merely by some carbonized tendons, which gave way at the least touch. Lastly, the thighs were so completely separated that, had it not been for fragments of animal charcoal, the separation might have been attributed to a knife.

From the examination of these facts, it was concluded that, as it was impossible to attribute the phenomena to the action of the combustibles with which the body had been in contact, they must be ascribed to a cause inherent in the individual, put in action, perhaps, by the heat of the brick applied to the feet, but which must have found a fuel in the tissues which it destroyed; that, in a word, it must be classed among cases of spontaneous combustion. This opinion of M. Masson being fully confirmed by that of M. Orfila, the accused were acquitted.

§ XI.—*Doubtful Sex.*

62. In the American journals will be found narrated two cases of doubtful sex, one by Dr. Barry, the other by Dr. Harris. From the general external characters observed in Dr. Barry's case, he was led to consider the party as belonging to the male sex. This opinion was founded on the presence of a penis, a scrotum, and one testicle, with a spermatic cord; but in the perineum, at the root of the corpora cavernosa, was an opening large enough to admit an ordinary-sized catheter. At a subsequent examination, it was found that the party menstruated regularly through this opening, which was found to lead to a passage similar to a vagina, and through this opening the urine also was voided. The mammæ and nipples were well developed, and the character and propensities evinced were feminine. The examination took place in order to ascertain whether the party had a right to vote as a male citizen or not. For more particular details the reader is referred to the paper itself.

Dr. Harris's case resembled the foregoing in the preponderance of the female characters, and in the regular occurrence of menstruation, but it would appear that the discharge took place through the urethra of a stunted penis, "naturally formed in every respect." An imperforate fissure occupied the position of the vagina.*

* American Journal of Medical Science, July 1847. Dr. Barry's case was originally reported in the New York Journal of Medicine, Jan. 1847.

§ XI.—*Medico-legal Trials and Inquests.*

63. *Death from Fever, simulating Death from Opium.*—An inquest was held August 8th, 1848, at Putney, on the body of Sophia Dallett, at the urgent request of Dr. Cormack, her medical attendant. The particulars, a full account of which the reader will find in the journals of the time, are succinctly as follows. She was taken ill with vomiting and shivering on the 4th of July, for which she took some antibilious pills, and after that, medicine supplied by Mr. Farmer, of Putney. On the 6th, Dr. Cormack saw her, and found her suffering under symptoms resembling those of fever, attended with violent vomiting and diarrhœa, and complete depression, with contracted pupils. Sedative medicine, and the creosote mixture, were then prescribed; but, on his return, the abdominal pain, which had been present from the first, had considerably increased, and the diarrhœa and vomiting still continued; for these he applied a stimulating and sedative liniment, and prescribed wine. The symptoms, under this treatment, improved for a short time, but were soon succeeded by a state of complete prostration and drowsiness, similar to that induced by opium. Thinking it possible that the symptoms, then present, might have been caused by the opium given (but which had been prescribed in small and guarded doses), he endeavoured to rouse her by mustard cataplasms applied to the feet, &c. Two medical men, who were called in at this time, agreed in the judiciousness of the treatment adopted, and endeavoured to excite vomiting by the exhibition of the sulphate of zinc. In spite of all remedies, she died 24 hours after Dr. Cormack was called in. After death, evidence of great congestion of the brain and its membrane was found, as also of well-marked inflammation of the small intestines. Peyer's and Brunner's glands were much enlarged, and the mucous membrane in the lower part of the small intestines thickened, and in parts ulcerated. The jury exonerated Dr. Cormack from any charge of having adopted improper treatment.

64. *Culpable Homicide.*—Thomas Gibson was tried on the Glasgow circuit, for culpable homicide, in having caused the death of Charles Forrest, by forcibly throwing him on the ground, and twisting and tightening his neckcloth so that he died from the effects of the injury so received.

From the evidence it appeared, that on the night of the occurrence Forrest was gossiping at the house of a neighbour, when, hearing a loud knocking at the next house, he ran out, and he and his neighbour's daughter pursued a man who was seen running away. Upon coming up with him, Forrest insisted upon seeing his face, when Gibson, the stranger, seized the deceased by the neckcloth, and threw him against a pile of straw, and appeared to be choking him. Others arriving at this time, endeavoured to take Gibson off, but without success, and at last both he and Forrest fell down together. Upon Forrest rising, he complained of feeling sick, and looked very pale, and after a time became drowsy, and died the following day. From the medical evidence it appeared that there was congestion of the lungs and brain, with extravasation of blood on both hemispheres. Between the hemispheres there were three osseous deposits. There was no alcoholic smell in the stomach. Dr. Seller, of Edinburgh, considered death as due solely to the violence, as also did Dr. Maclagan, while Dr. King, of Glasgow, ascribed the death to apoplexy, and would not have anticipated a fatal result had the membranes been in a healthy state. The jury found the prisoner guilty of culpable homicide, but recommended him to mercy.*

* Monthly Journal of Med. Science, June 1847.

65. *Charge of Poisoning by Arsenic—Acquittal.*—Elizabeth Johnson was indicted for poisoning her husband by arsenic. It was given in evidence that as soon as he was first taken ill, she pronounced that he would not recover, and told all her neighbours so. Although the surgeon said at one of his visits that he was better, she said that he would die the same night—a prophecy which was literally fulfilled. She, moreover, had bought some arsenic the day before her husband was taken ill, though she denied that she even knew what arsenic was. The deceased died with all the symptoms of irritant poisoning. There were found signs of inflammation in the stomach and œsophagus, but the reactions by Reinsch's test were not satisfactory at the first examination, which took place the day after the death. Three months afterwards the body was exhumed, and the chemical examination readily detected arsenic. The prisoner was acquitted, owing to the conflicting evidence of the medical witnesses.*

66. *Death from Sulphuretted Hydrogen.*—An inquest was held before Mr. Bedford, August 7th, 1847, to inquire into the death of George Goss, who was supposed to have died from the inhalation of this gas, the extrication of which had been due to the state of drainage in the neighbourhood of Long Acre. From the evidence it appeared that the deceased, a strong healthy man, was seen to go into a water-closet on the 6th instant, and that about a quarter of an hour afterwards a struggling was heard, and the man was found dead. His features were ghastly, and there was a "tremendous" stench in the yard, which had not been noticed before. From other portions of the evidence it appeared, that the drains of the court where he lived were nearly choked up, and that upon the morning of the catastrophe a quantity of impure sulphuric acid had been thrown into the sewer, which gave rise to the immediate extrication of sulphuretted hydrogen. The medical evidence attributed the death solely to this cause, and a verdict was recorded accordingly.†

* Ibid. Aug. 1847; from 'Times' newspaper.

† Pharm. Times, August 21, 1847.

Supplementary Reports.

I. A REPORT ON THE RECENT PROGRESS OF PSYCHOLOGICAL MEDICINE.

BY C. LOCKHART ROBERTSON, M.D.,
Medical Staff, attached to the Royal Military Lunatic Asylum at Yarmouth, &c. &c.

In the following Report our aim has been to present a view of the recent improvements and suggestions made in the department of Psychological Medicine.

This being the first Report on this department of medicine which has been made in the 'Half-yearly Abstract,' we have thought it advisable to devote a section (§ I) to the consideration of the forms of insanity, the which have been, and still are, variously classified. The simplest of the recent divisions of the subject is that contained in the Report of the Metropolitan Commissioners in Lunacy (1844), and is, therefore, the one which we have adopted throughout this Report.

Otherwise the only rule we have followed has been to sift all the recent writings on the subject, and rejecting false theories and common-place remarks, to present our readers with a summary of the recent adaptations of scientific research to the cure and alleviation of mental disease.

We would take this opportunity of drawing their attention to a recently established periodical, 'The Journal of Psychological Medicine and Mental Pathology,'* "a journal devoted exclusively to the consideration of the human mind in its abnormal state." We have received the first two numbers, which, in our opinion, reflect much credit on Dr. Winslow (the editor) and his coadjutors. The individual articles are, generally speaking, of considerable value in a scientific point of view, and have been written with much care.

We trust, however, in future numbers to see more regard had to the recent writings on this department of medicine contained in the contemporaries of the 'Psychological Journal,' viz. the American, French, and German journals of insanity. But as the Editor, with justice, observes, in the second number, "our readers will undoubtedly make every allowance for the deficiencies perceptible in the early numbers of the 'Journal of Psychological Medicine;' the difficulties inseparably associated with the first attempt made in this country to establish a periodical of this kind have been great."

* No. 1, January 1848; *to be continued quarterly.*

§ 1.—*Forms of Insanity.*

In the Report of the Metropolitan Commissioners in Lunacy, the various forms of mental disease are thus ably distinguished into—

I. Mania; which is divided into—
 a. Acute mania, or raving madness.
 b. Ordinary mania, or chronic madness of a less acute form.
 c. Periodical or remittent mania, with comparatively lucid intervals.

II. Dementia, or decay and obliteration of the intellectual faculties.

III. Melancholia, }
IV. Monomania, } These three forms are sometimes comprehended under the term partial insanity.
V. Moral Insanity, }

VI. Congenital Idiocy.

VII. Congenital Imbecility.

VIII. General Paralysis of the Insane.

IX. Epilepsy.

A description of the disorders to which these terms are appropriated is likewise given, of which the following is the substance:

1. *Mania.*—This term is used to designate a particular kind of madness, as affecting all the operations of the mind; hence its synonyme, total or general insanity. Maniacs are incapable of carrying on, in a calm and collected manner, any process of thought; their disorder for the most part betraying itself whenever they attempt to enter into conversation. It likewise affects their conduct, gesture, and behaviour, which are absurd and irrational; their actions being characterised by great restlessness, appearing to be the result of momentary impulses, and without obvious motives. Mania is likewise accompanied by hurry and confusion of ideas, and by more or less excitement and vehemence of feeling and expression. When these last symptoms exist in an excessive degree, the disorder is termed—

Acute mania, which is the first stage of the disease, and often tends to a fatal termination, through the exhaustion occasioned by perpetual agitation and want of rest. It is also generally attended with considerable disturbance of the vital functions. The symptoms gradually abate, and the disease passes into—

Chronic mania, which is attended with less excitement of the passions, less rapidity of utterance, and less violence of action. In this stage the disorder of the mind is not always immediately perceptible; but it soon becomes apparent that the patient is incapable of continued rational conversation or self-control, and that his acts are the result of momentary caprice, and not governed by rational motives. A great proportion of maniacs labour under illusions or hallucinations, or false impressions as to matters of fact; but in these illusive notions there is no consistence or permanence. Patients labouring under this chronic form of mania are often tolerably tranquil and harmless, and capable of being employed in agricultural and other pursuits.

Intermittent mania (the third subdivision of mania) is a variety the existence of which has been much disputed, some medical writers of note denying the existence of lucid intervals altogether. As the Commissioners justly observe, the fact appears to be, that there are patients subject to occasional paroxysms of raving madness, but who have intervals of comparative tranquillity and rest. It generally happens, however, that after the alternations of raving fits and periods of tranquillity have continued for some time, the intervals become less clearly marked, and the mind is found to be weakened, the temper

more irritable, and both the feelings and the intellectual faculties more and more disordered.

2. *Dementia.*—Chronic and protracted mania is frequently the prelude to a decay and final obliteration of the mental faculties, which is termed dementia. In some few instances (generally the result of causes of a depressing nature, as sudden grief, &c.) dementia is the primary form of mental derangement. In those instances in which dementia is the sequel of protracted mania, it is not easy to determine the point at which mania ends and dementia begins. It differs from idiocy, in which the powers of the mind have never been developed, while in dementia they have been lost.

These two forms, mania and dementia, are the prevailing varieties of insanity in most large asylums, constituting, on the average, two thirds of the cases.

3. *Melancholia.*—Of this disease there are several degrees and varieties. Some patients display merely lowness of spirits, with a distaste for the pleasures of life, and a total indifference to its concerns. These have no disorder of the understanding, or defect in the intellectual powers; and, however closely examined, manifest no delusion or hallucination.

Another class of melancholics derive their grief and despondency from some unreal misfortune which they imagine to have befallen them. Many are convinced that they have committed unpardonable sins, and are doomed to eternal perdition. Others believe themselves to be accused and suspected of some heinous crime, of which they are destined to undergo the punishment; and of this they live in continual dread, &c. &c.

All cases of melancholia have more or less a tendency to suicide.

4. *Monomania.*—This term is given to cases in which the intellectual faculties are unimpaired, except with relation to some particular topic. A frequent illusion of monomaniacs is that they hold conversation with supernatural beings.

5. *Moral Insanity.*—This term is used to designate a form of mental disease in which the affections, sentiments, and habits, and, generally speaking, the moral feelings of the mind, rather than the intellectual faculties, are in an unsound and disordered state. Cases of this description were formerly looked upon as an unaccountable phenomena. They are, however, now regarded as a distinct form of mental disorder in nearly all the public asylums. They are characterised by a total want of self-control, with an inordinate propensity to excesses of various kinds.

6. *Congenital Idiocy and Congenital Imbecility.* — Congenital idiots are persons whose intellectual faculties have never been developed. Congenital imbecility is the result of some original defect which renders the mind feeble in all its operations, though not altogether incapable of exercising them within a limited sphere.

7. *General Paralysis of the Insane.*—This is a species of monomania in which the individual affected fancies himself possessed of vast riches and power, and which is always attended with a general paralysis, distinguished at its onset by an impediment in the articulation, and gradually progressing to total obliteration of the power of locomotion, with inability to attend to the calls of nature, &c. This specific form of insanity was first pointed out by French physicians.

8. *Epilepsy.*—This disease exists complicated in various ways with defects or disorders of the mind; with imbecility; with dementia; with mania; or it may coexist with perfect soundness of mind.

§ II.—*On the Present State of Lunacy, and of Lunatic Asylums.*

In an official document lately presented to both Houses of Parliament, by command of her Majesty, entitled 'Further Report of the Commissioners in Lunacy to the Lord Chancellor,' much valuable information regarding the condition, &c., of the insane is to be found. Indeed, the whole Report reflects the highest credit on the present Lunacy Commission. We proceed to make some extracts from the second part of that Report on the present state of lunacy and of lunatic asylums.

9. *Number of Insane Persons in England and Wales.*—"There are in England and Wales alone, according even to the returns, more than 23,000 persons of unsound mind. These returns, however, are notoriously imperfect, falling far short of the actual amount; and they do not, moreover, embrace the whole of a numerous class who are termed imbecile persons, having been so from birth, or become so from senility."

10. *Proportion of Higher and Middle Classes, and of Paupers.*—"Of the 23,000 persons before referred to, nearly 5000 belong to the higher and middle classes of society, and about 18,800 are paupers." About 15,000 of these are confined in the various hospitals, county asylums, and licensed houses; the others being in poor-law unions, or in private houses.

11. *Aggregate Number of Insane, and Persons engaged in their care.*—"The aggregate number of the insane and imbecile, together with their various committees, visitors, medical officers, attendants, and servants, cannot be fairly estimated at less than 30,000 persons."*

12. *Estimate of Annual Amount expended in the Maintenance, &c., of Lunatics.*—"On a rough estimate, it may be stated that the aggregate amount of money expended every year, for the maintenance of lunatic patients, or administered on their behalf, exceeds £750,000. To this amount must be added the expense of maintaining many families cast upon the parish by the parent's insanity, the expense of supporting many persons termed imbecile, and the interest of the large sums invested in the public lunatic establishments (some of which are paying interest on borrowed money)—which, together, will raise the expenditure to little less than *one million annually.*"

The question of lunacy, therefore, is manifestly one of considerable extent, and, independently of its bearing upon the general liberty and welfare of the subject, of great public importance.

13. *Control and Jurisdiction exercised over the Question.*—"The expense incurred on behalf of pauper lunatics is intrusted to the justices of counties and parish authorities; the due application of the private property of the insane is subject to the especial jurisdiction of the Lord Chancellor.

"On the other hand, to ascertain that the patient is duly confined; that he has medical aid, fit attendance, and proper comforts during his confinement;

that he is provided with employment and amusement; that his food is good, and his place of residence healthy, clean, well-ventilated, and in good order; that he himself is not ill-treated, neglected, or improperly restrained; and, finally, that he is liberated when fit for liberation—are amongst the duties imposed upon the various visitors, and, concurrently with them, upon her Majesty's Commissioners in Lunacy. These various duties are regulated by two Acts of Parliament (8 & 9 Vict., c. 100; and 8 & 9 Vict., c. 126); the one being for regulating the care and treatment of lunatics generally, and the other being for the provision and regulation of lunatic asylums for counties and boroughs, and the maintenance and care of pauper lunatics therein."

14. *Former Condition of Asylums for the Insane.*—"The enormities existing in asylums, public as well as private, previously to the parliamentary investigations of 1815, 1816, and 1827, can scarcely be exaggerated. They comprise almost every species of cruelty, insult, and neglect, to which helpless and friendless people can be exposed when abandoned to the charge of ignorant, idle, and ferocious keepers, acting without conscience or control."

Although, however, these investigations had been productive of good, the metropolitan licensed houses were found, in 1828, by the commissioners appointed under Act 9 Geo. IV, c. 41, to have been defective in almost every important particular. The apartments of the pauper patients were dirty, ill-ventilated, and altogether wanting in comfort. Personal restraint prevailed to a great and inexcusable degree. The number of attendants was, in almost every instance, inadequate to the proper care and control of the patients, &c. &c.

Even, in 1844, when, by the Act 5 & 6 Vict., c. 87, the metropolitan commissioners were enabled to inspect the condition of the various public and private asylums throughout England and Wales, they reveal, in their published Report,* a state of things existing in the private licensed houses, both in the metropolis and in the provinces, over which humanity would fain draw a veil; while the condition of several public institutions was but slightly better, that at Haverfordwest, belonging to the county of Pembroke, as bad.

Taste and want of space alike induce us to refer those interested in such chronicles of cruelty to the official Report in question.

15. *Present Condition of Asylums for the Insane.*—"Important benefits and comforts of various sorts have been obtained for the insane by the present system of inspection and supervision; and the amount of improvement which has of late years taken place in lunatic establishments have, her Majesty's Commissioners report, been great and general. "The dwellings for the insane are no longer the gloomy prisons in which they were formerly confined. Cleanliness, warmth, and ventilation are insisted upon; better diet, clothing, and bedding have been provided; personal restraint is diminished, and even where still employed its severity is greatly mitigated, and its application strictly watched; the health and mental condition of the lunatic are more carefully considered; occupation and amusement are more generally afforded to him; and in all respects better treatment is secured; whilst an opportunity is periodically given to him of representing any hardship to which he may have been subjected—an advantage which, as is found by experience, many patients fully appreciate."

Such a picture, and drawn, too, by those officially intrusted with the supervision of such establishments, forms a pleasing contrast to the view we above had of the *former conditions of asylums for the insane.*

* Report of the Metropolitan Commissioners in Lunacy to the Lord Chancellor. Presented to both Houses of Parliament by command of Her Majesty. London, 1844.

§ III.—*Statistics.*

16. *Results of Treatment in Hospitals for the Insane.*—The statistics of insanity have recently been carefully and ably investigated by Dr. Thurnam.* "The results of treatment," he says, "which it is the principal object of statistical reports of hospitals for the insane to enable us to compare, are two in number—*the proportion of recoveries per cent. of the admissions, and the mean annual mortality per cent. resident.*† With the important proviso, indeed, of circumstances being otherwise similar, the efficacy and success of these institutions may be regarded as in a direct ratio with the proportion of recoveries, and in an inverse one with the rate of mortality." As, however, in order to ascertain the precise proportion of recoveries in any particular asylum, the numbers "admitted" must be the same as those "discharged" when the period in question is completed—a method of observation which evidently cannot be attained—it follows that although the plan of calculating the recoveries upon the admissions affords a near approximation to the truth, "yet that it does not exhibit with precise accuracy the results of treatment in any hospital for the insane." On the other hand, the rate of mortality, when calculated on the average population of an asylum, not being liable to any such objection, "constitutes, for this and other reasons, our most important statistical means for estimating the success in treatment and the character of hospitals for the insane."‡

"The indiscriminating comparision of the aggregate results, however," as Dr. Thurnam well points out, "is nearly always very fallacious," yet it is particularly so when these apply to short periods, and especially when such periods are the *first* in the history of the institutions to which they refer. Indeed, upon a particular investigation of the statistics of a large number of hospitals for the insane, it appears that the proportion of the recoveries, in nearly every instance, has gone on materially increasing for a considerable period, often amounting to 30 or even 40 years from their first establishment; while, on the other hand, the mortality is generally more favorable during the early history of an asylum, continuing during the first 20 or even 30 years of its operations, to undergo a material increase which often amounts to 50 or 100 per cent. upon the mortality of the first 5 years. *A period therefore of the lowest, from 20 to 30 years, must elapse before we are authorized in concluding that the experience of an hospital for the insane at all fairly represents the average results of treatment which either have been, or will be, obtained in it.*

* Observations and Essays on the Statistics of Insanity. Simpkin, Marshall, and Co., London.

† Our limits forbid us following Dr. Thurnam in his consideration of the important sources of error connected with the terms used to designate the results of treatment, and with the methods of calculating the numerical value of such results. We here assume that, in asylums for the insane, the proportion of recoveries ought to be calculated on the admissions, the rate of mortality on the mean numbers resident, referring those of our readers engaged in such researches to the first four sections of the first chapter of Dr. Thurnam's 'Statistics,' and which are well worthy of a careful perusal.

‡ Although "the only STRICTLY accurate and unequivocal test of the sanitary state of any population, as established by its mortality, is obtained by a comparison of the deaths at each age, with the average numbers living at the same ages;" yet, as regards asylums for the insane, "it is probable that the difference in the numbers living at different ages, will rarely be so great as to render the inferences, from a comparison of the mean annual mortality at all ages, erroneous in any very material degree."—(Dr. Thurnam, op. cit. p. 16.)

In the following table, which is compiled from two furnished by Dr. Thurnam (Op. cit. pp. 20, 22), we have exhibited the comparative results of treatment in several of the principal hospitals for the insane at 20 years respectively from the dates of their establishment, the proportion of recoveries being calculated on the admissions, the mortality on the mean population.

Name of Asylum.	Number of Years from date of Establishment.	Proportion of recoveries, per cent. of Admissions.	Mean Annual Mortality. At the End of Twenty Years.	Mean Annual Mortality. During the Ten Years, 1835-45.*
Lancaster . . .	20 years.	38·56	18·25	14·94
Nottingham . .	20 years.	41·87	7·37	8·28
York, West Riding	20 years.	43·56	16·57	14·54
Lincoln . . .	20 years.	39·7	13·44	13·33
Retreat, York . .	20 years.	46·01	3·71	5·24
Dundee . . .	20 years.	44·21	5·84	6·05
Glasgow . . .	20 years.	42·72	8·31	10·02
McLean Asylum Boston, U.S.	20 years.	41·93	11·41	not given.

17. *Circumstances in the Character of the Cases admitted influencing the Results of Treatment.*—Admitted in any given case that the proportion of the recoveries and the rate of mortality be correctly calculated, there still can be no doubt, as Dr. Thurnam observes, "that the considerable discrepancy which is so often to be observed in the aggregate results of treatment in different asylums as frequently, or perhaps still more often, depends upon a difference in the previous circumstances and character of the cases admitted, than upon any differences there may be in the various influences and methods of treatment to which they have been subjected in the institutions themselves, and thus, in order to any fair comparison of the recoveries and mortality, we require considerable information as to these several particulars."

The following are the more important of these circumstances, though in the arrangement of these we deviate from Dr. Thurnam's method.

a. Duration of the disorder.—'Of all the circumstances which affect the comparison of the recoveries and mortality of the insane, the stage or duration of the disorder is, practically speaking, the most important. Dr. Thurnam states that, at the Retreat, the probability of recovery in cases brought under care within three months of the first attack, has been found to be as 4 to 1, whilst in cases not admitted until more than twelve months after the attack, the probability of recovery is less than as 1 to 4.

The duration of the disorder likewise exerts a material influence upon the mortality, as well as upon the proportion of recoveries. This influence is, however, of an opposite character, the rate of the mortality being greater in the recent and less in the chronic cases. Thus, during 48 years at the Retreat, the mean annual mortality has been 7·3 per cent. in cases admitted within three months of the first attack, and only 4·57 per cent. in those admitted of more than twelve months' standing.

The following table exhibits the proportion of recoveries per cent. on the

* In this column we have given the mean annual mortality for the ten years 1835-45, which Dr. Conolly, in the Appendix to his work on the Construction, &c., of Asylums (noticed in § IV), has adopted, without any qualification, as the standard of his statistical comparison of all public hospitals in Great Britain, both of recent and of longer duration, a method which would lead those unconversant with the statistics of insanity to draw most unfair conclusions as to the comparative success of many of these institutions.

admissions, and the mean annual mortality in cases of recent and longer duration when admitted at the Retreat 1796-1844.*

Duration of Disorder when Admitted.	Proportion of Recoveries per cent. of Admissions.			Mean Annual Mortality per cent. Resident.		
		Female.	Mean.	Male.	Female.	Mean.
First attack, and within 3 months	79·24	77·19	78·18	8·05	6·76	7·3
First attack above 3 and within 12 months . .	46·15	43·75	45·	5·14	4·06	4·37
Cases of 12 months' duration and upwards . .	14·65	23·38	19·16	5·24	3·98	4·57

b. Sex.—That the probability of recovery is greater in women than in men may now be regarded as established. Dr. Thurnam states, that in the Asylum, at Glasgow, taking the entire period of its operation, the recoveries in women have exceeded those in men by 4 per cent.; at Belfast by 5; at Lancaster by 7; at Armagh by 10; at the Retreat by 20, &c. A still greater difference, in the rate of mortality of the two sexes, is nearly always to be noted. As it is well known, there is an excess of 5 or 6 per cent. in the general mortality of this country on the side of males, but the relative difference is enormously greater in the insane. The excess of the mortality on the side of the males amounted to 72 per cent. at Hanwell; to 57 per cent. at Glasgow; to 56 per cent. at Lancaster; to 34 per cent. at the Retreat, &c.

It is, therefore, obvious that, in institutions receiving a decided preponderance of men, the aggregate results, both as respects the recoveries and the mortality, will, *cæteris paribus*, be less favorable than in such as have an excess of women.

c. Age.—Age exerts a very decided influence, both on the proportion of the recoveries and the mortality of the insane. As will appear from the following table, the probability of recovery is greatest in the young, and undergoes a very regular diminution as age advances.

Ages.	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	All ages.
Proportion of recoveries at the Retreat, 1796-1840 .	55·5	53·5	50·	47·5	44·8	35·6	20·	25·	47·3
Proportion of recoveries at the Asylum, York, 1814-40	52·8	37·6	28·8	31·4	27·5	22·4	18·2		33·9

On the other hand, the mortality of the insane increases in proportion to the age much more rapidly than is the case in the general population. The following table exhibibits the mean annual mortality at different ages.

Ages.	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-97	All ages.
Mean annual mortality at the Retreat, 1796-1840 .	3·6	2·8	3·4	4·5	6·3	8·6	22·1	17·5	4·7
Mean annual mortality at the Asylum, York, 1814-40	4·8	6·8	9·4	6·4	6·9	12·1	30·		7·4

* Thurnam, p. 56.

d. Rank and Previous Habits.— A very material influence is, doubtless, exerted by the rank in life and other external circumstances of the persons to whom asylums are appropriated, upon the average results of treatment; though in particular perhaps upon the mean annual mortality. Thus Dr. Thurnam states, that the proportion of recoveries at the Retreat, in those connected with the Society of Friends, has been at the rate of about 50 per cent., and the mean mortality only 4·7; whilst at the Wakefield asylum, which may be taken as a fair representation of an English county asylum receiving paupers only, the recoveries have been 43·6 per cent., the mortality 15·7 per cent. on the population.

These, together with one or two minor points, as the duration of residence, form of disorder, &c. constitute the circumstances in the character and prior condition of the cases brought under treatment, which, as Dr. Thurnam has the merit of showing in his treatise, "may more or less materially influence the proportion of recoveries and the mortality in hospitals for the insane; so that these results may vary materially from the average standard without reflecting any discredit on these institutions. Still there can be no doubt, and it would be a libel on these institutions to assert otherwise, that the management and treatment of the various influences, moral and physical, to which the insane are subjected in hospitals appropriated to their reception, do exert a material influence on the results which are obtained. And although we shall never be able to ascertain the exact numerical value which for good or for evil is to be attached to the observance, neglect or perversion, of the various particulars of such treatment in any given institution, we may yet be able to form some general notions on these points, which may approximate to truth, and which may furnish us with useful hints in forming our conclusions."*

18. *Influence of Insanity on the Duration of Life.*—The influence of insanity on the duration of life, is a subject on which authors have long been divided, and the opinion that mental alienation is not necessarily prejudicial to life is not even yet exploded. The researches of Dr. Thurnam, however, prove that insanity does materially shorten the duration of life. Of the total deaths which occurred in the Retreat from 1796-1840, "in those connected with the Society of Friends, less than two thirds, and in the others not more than one third of the expectation of life at the time of the attack was on an average realized." For further remarks on this subject, the reader must be referred to the work itself. (Part II, p. 100.)

19. *Causes of Death in the Insane.*—In the subjoined table, Dr. Thurnam draws a comparison of the several classes of diseases proving fatal at the Retreat (near York), with those which proved fatal through the whole of England and Wales, in the year 1838. The results furnished by this table are of great interest.

* It is almost superfluous to state that the three tables in the last page are adopted from Dr. Thurnam's treatise on the statistics, &c., chap. I. In a second chapter Dr. Thurnam traces, *seriatim*, the probable influence on the results which the several items of which the treatment of the insane consists may exert. Our limits forbid us entering into this part of the subject.

Causes of Death.*	England and Wales, 1838.	The Retreat, 1796-1840.
1. Epidemic, endemic, and contagious diseases	20·538	8·633
2. Diseases of the nervous system . .	15·016	19·424
Including *convulsions*, (chiefly infants)	7·879	
apoplexy . . .	1·703	11·510
paralysis . . .	1·505	1·438
epilepsy . . .	·330	4·316
disease of brain . .	·425	2·158
3. Diseases of the respiratory organs .	27·484	24·460
Including *inflammation of the lungs*	5·445	4·346
consumption . . .	17·613	14·388
4. Diseases of the heart, &c. . .	1·075	6·402
5. " " digestive organs .	5·387	14·388
6. " " kidneys, &c. . .	·493	·719
7. " " uterus, &c. . .	1·007	·719
8. " " bones, &c. . .	·635	
9. " " skin, &c. . .	·126	
10. " " uncertain or variable seat	13·389	13·669
11. Old age	10·781	7·913
12. Death by violence	3·617	3·597
Including *suicide*	·320	3·597

20. *Liability to Relapse or Recurrence.*—This is a question often put to the medical practitioner, and one which statistics alone will enable him correctly to answer. Dr. Thurnam concludes his calculations and inferences on this subject (which are of much interest and value) with this remark, "the liability to a relapse or recurrence of insanity after a recovery from a first attack, all things considered, can scarcely be estimated as at all less than 50 per cent., or as one in every two cases discharged recovered. . . . . In round numbers (according to the experience of the Retreat), of ten persons attacked by insanity, five recover, and five die sooner or later during the attack. Of the five who recover, not more than two remain well during the rest of their lives; the other three sustain subsequent attacks, during which at least two of them die.† But, although the picture is thus an unfavorable one, it is very far from justifying the popular prejudice, that insanity is virtually an incurable disease; and the view which it presents is much modified by the long intervals which often occur between the attacks, during which intervals of mental health (in many cases of from 10 to 20 years' duration) the individual has lived in all the enjoyments of social life."

21. *Relative Liability of the Sexes to Insanity.*—This question has been minutely analysed by Dr. Thurnam. "The proportion of men," he states,

* This table is read thus, of every 100 deaths in England and Wales during the year 1838, 20·538 died of epidemic, endemic, and contagious diseases, while of every 100 deaths at the Retreat, from 1796-1840, only 8·633 died of the same diseases, &c. &c.

† According to the experience of the Siegburg Asylum for 20 years (1825-45), of 125 cases which, during that period, were discharged cured, and who have subsequently died, 68 continued of sound mind during the remainder of their lives; 57 died insane; or, in round numbers, of every 11 cases of insanity which were there cured, six continued well throughout life; five died insane (the result of one or more relapses). This stands in the proportion of three remaining well to two and a half dying insane, and is therefore a more favorable view than that furnished by the experience of the Retreat.—Aerztlicher Bericht über die Wirksamkeit der Heil-Anstalt zu Siegburg, erstatted im December 1847. Koeln 1847.

"admitted into asylums for the insane is, on the average, 13·7 per cent. higher than that of women, and as we know that the proportion of men in the general population, particularly at those ages when insanity most usually occurs, is decidedly less than that of women, we can have no grounds for doubting that the male sex is actually more liable to disorders of the mind than the female."

22. *Liability to Insanity at Different Ages.*—"From 30 to 40 years the liability to insanity is usually the greatest, and it decreases with each succeeding decennial period; the decrease being gradual from 30 to 60 years, and after that much more rapid."*

§ IV.—*On the Construction and Government of Lunatic Asylums.*

At a period like the present, when nearly every county in England is building, about to build, or enlarging the asylum for their insane poor, and as after the 8th of August, 1848, it becomes obligatory by Act of Parliament (8 and 9 Vict., c. 126) on "all counties and boroughs, having no asylum, to erect or provide an asylum for the pauper lunatics of such county or borough;" the principles on which these buildings should be constructed, as likewise the form of their government, become matters of great moment. A recent publication by Dr. Conolly on the subject,† must be regarded by all interested in the question as a most valuable addition to our knowledge on these matters. We shall therefore endeavour to present our readers with a summary of his views and suggestions.

23. *Advantages of a County Asylum for the Insane Poor.*—"The insane poor are of necessity exposed in both such places (viz. *in private licensed houses, or small asylums, or lunatic wards attached to workhouses*), to innumerable disadvantages only to be avoided in larger public asylums. Their diet, their clothing, their lodging are all generally of the most wretched description; the means of occupation are very limited; space for exercise is wanting; means of recreation and amusement are unthought of or unknown, and security is only effected by confining the limbs of the violent or troublesome, or by buildings so contrived as almost to shut out light and air, and utterly to exclude cheerfulness. All these circumstances are manifestly unfavorable to the recovery, or even to the amendment of those thus confined; and whilst there is not any foundation for the assertion that the number of cures, in curable or recent cases, is greater in private licensed houses for paupers than in public asylums, the mortality in such houses has been shown far to exceed that of the public institutions."

24. *Greater Economy of Public County Asylums.*—"As regards the question of expense also, it appears that when once a county asylum is built and opened, the patients are maintained in it at less cost than in private licensed houses; the average charge per head in the licensed houses being 8*s.* 11¼*d.*, and the average cost in county asylums 7*s.* 6¾*d.*; which in an asylum for 300

* These conclusions as to the liability to insanity of the two sexes, and at different ages, vary materially from those very generally adopted. Dr. Thurnam enters into the subject at considerable length to prove, as we think he does satisfactorily, that the opposite conclusions on these questions are really to be attributed, not so much to any error in the data on which they have been founded, as to the application of faulty methods of statistical analysis to these data.

† The Construction and Government of Lunatic Asylums and Hospitals for the Insane, by John Conolly, M.D., &c., pp. 183. London, 1847.

patients, would constitute a considerable annual saving to the rate-payers of the county. How much better the pauper lunatic is taken care of in any well-conducted county asylum, is easily to be ascertained by inspection."

25. *General Remarks on the Construction of an Asylum.*—"It is particularly necessary to observe that almost every desirable quality, both in the construction and government of an asylum, becomes more difficult to be obtained or preserved, when the size of the asylum is greater than is required for 350 or 400 patients." Next, "no part of the building ought to consist of more than two stories." As to form, "there is none so convenient as one in which the main part of the building is in one line; the kitchen, laundry, workshops, and various offices being arranged behind these central buildings. In this main line wings of moderate extent may be added at right angles, in each direction, in which case the building assumes what is called the H form." Farther, "we require that the building should be on a healthy site, freely admitting light and air, and drainage. Space should be allowed for summer and winter exercise, for various employments, and for all the purposes of domestic economy. Warmth must be provided for during the winter, light for the winter evenings, coolness and shade in the summer. Separate wards and bedrooms for the tranquil, for the sick, for the helpless, for the noisy, the unruly or violent, and the dirty; a supply of water so copious, and a drainage so complete, that the baths, water-closets, and building in general, may always be kept perfectly clean, and free from bad odours. There should be workshops, and workrooms, and schoolrooms, separate from the wards, and cheerfully situated; a chapel conveniently accessible from both sides of the asylum; as also a kitchen, a laundry, a bakehouse, a brewhouse, and rooms for stores, and all the requisites for gardening and farming; and also a surgery, and all that is necessary for the medical staff. All these are indispensable in every large public asylum." Lastly, as regards the external aspect of an asylum, the following remark is of much practical value:—"When it is remembered that many patients are sent to an asylum whose senses are as perfect, and whose feelings are as acute as those of sane people, and that from the moment they enter the outer gate, everything becomes remedial with them, or the reverse, the reason will at once be seen why the external aspect of an asylum should be more cheerful than imposing, more resembling a well-built hospital, than a place of seclusion or imprisonment. It should be surrounded by gardens, or a farm. . . . . The reception-room should be a cheerful and neatly furnished sitting-room."

26. *Galleries, Dormitories, Sleeping-rooms.*—"A public asylum is ordinarily a series of galleries, out of which almost all the bedrooms open on one side, whilst on the other, large windows and doors open on the airing grounds and gardens. The galleries should be spacious, doors wide. A width of twelve feet and a height of eleven, seems to be suitable for the galleries of a county asylum. They should be light and cheerful; several small tables and chairs should be placed between the windows; the windows should be low and large, affording a view of pleasant courts and shrubberies.

"Every one who has any personal experience of sickness and bad nights, must know how sleep is conciliated or repelled by the temperature, the tranquillity, and even the general aspect of the bedroom, and the appearance or quality of the bedding and bedclothes. These feelings must be remembered, when we have to make night and day arrangements for nervous and insane persons accustomed to the comforts of life, and there is no necessity for forgetting them even in an asylum for the poorest lunatics."

Much difference of opinion exists as to the comparative value of dormi-

tories and single bedrooms. We greatly prefer the latter, and entirely concur with Dr. Conolly in his remark, "that in favour of large dormitories I do not know one good reason that can be advanced. Those who sleep in them are generally discontented. One patient accidentally noisy, disturbs the repose of fourteen or fifteen; and out of that number there is often some one noisy. . . . . The violent patients *must, of course*, be in single rooms, and if dirty patients are herded together at night, a dormitory becomes perfectly disgusting; and as for the clean and orderly, and tranquil and convalescent patients, no complaint is so constantly on their lips, as that which arises from their not having a single room, and consequently not having a single moment, to themselves, or any place where they can be quiet, or, in their frequently uttered words, where they can even say their prayers without interruption. I would therefore have, at least, two thirds of the bedrooms single rooms, very few and small dormitories, and no large dormitories for any class of patients."

In a second chapter, Dr. Conolly considers in detail, *the various arrangements of galleries and sleeping-rooms*, into which, however, our limits forbid us following him, as also into the necessary arrangements for *airing courts and grounds*, which are considered in a portion of the third chapter.

27. *Employments and Recreations without and within Doors.*—"Among the means of relieving patients from the monotony of an asylum, and of preserving the bodily health, and at the same time of improving the condition of the mind, and promoting recovery, employment of some kind or other ranks the highest. Its regulation is proportionably important. The spirit in which it is conducted should be conformable to the general spirit of the asylum, and its abuse should be carefully guarded against. . . . . The regulation of the employment of the patients is the regulation of a highly important remedy, and should never be attempted without the physician's assistance. As regards county asylums, there is now a great disposition in the officers to set every patient to work as soon as admitted; sometimes very improperly so, when perhaps work has made the poor creature mad. In many cases of recent mania and melancholia, work is positively detrimental to the patient; and in chronic cases, it is sometimes much objected to, and becomes on that account useless, if not hurtful.

"Constant and regular work cannot properly be exacted from insane persons, and they should not be kept at work so many hours as sane persons. Those patients who are employed in the workshops, laundries, bakehouses, &c., should be induced occasionally to walk round the field or gardens. In general, there is no want of a disposition to be occupied in those capable of exertion, and many patients are wretched if not allowed to work. To stigmatise as indolence what is the mere result of a malady which immediately reduces the nervous energy, and is often the beginning of paralysis, is an error into which no medical man would fall, and from which his opinion ought to protect any of his patients. There are some who are really indolent, but few of them who may not be in some way or other encouraged to some kind of occupation."

With regard to *recreation*, Dr. Conolly's remarks are likewise of much practical value. "In devising out-of-door recreation, it is necessary to avoid such as would endanger heedless patients, or be capable of being turned to mischievous purposes. Swings, see-saws, &c., are on these accounts scarcely to be recommended. The large rocking-horses to be seen in all our airing-courts at Hanwell, are free from all objection. Five or six patients can safely ride upon them at once, or one patient can be amused by them; the free

exercise they afford relieves the excited, and the gentle motion which single patients, sitting in the seat at their ends can enjoy, often soothes them to sleep. Means of amusement out of doors are useful to the attendants as well as to the patients; they contribute to relieve the irksomeness of their duties, and act as inducements to their taking the patients out as often as they can."

"Within doors similar care should be extended to providing recreation for the patients during the winter days and evenings. Each ward in which the patients are generally tranquil, should be provided with books, journals, magazines,* illustrated papers, pictures, albums, bagatelle and draught-boards, dominoes, cards, puzzles, soft balls, and even some descriptions of playthings; and the supply of these means of amusement should be carefully kept up. If music is encouraged among the patients, kind people will be found to furnish instruments which could not properly be bought for a county asylum. Some of the attendants are tolerable musicians, and a small band has been formed which contributes much to the enjoyment of the winter evening parties. The female patients often have small parties for dancing, and there are some entertainments on a larger scale, which have often been described. For these there ought to be a large apartment in every asylum, which might be otherwise useful also. In ordering these entertainments, the object should always be to produce gratification to the patients, without hurtful excitement. This is admirably effected in the evening entertainments, and as much forgotten in the extremely objectionable publicity of what are called fancy fairs, which ostentatious amusements, however well fitted to the idle and frivolous who are at large, are quite inconsistent with the character of an asylum for those suffering from mental disorder."†

28. *Clothing.*—"Among the most constant indications of insanity are to be observed negligence, or peculiarity as to dress.

"As regards the clothing of the pauper lunatic in a county asylum, it is especially desirable that it should be warm both in the winter, and in the changeable weather of the autumn and spring, and cool and unirritating in the summer. Many of the insane also are predisposed to pulmonary consumption, and a flannel waistcoat or drawers are indispensable to them, as well as to those who become depressed and inactive in severe weather.

"When convalescence is commencing, the patient generally becomes more cheerful, if some assistance is given as regards the Sunday dress, and of this a neat or even a pretty cap, is an important part.

"Many private asylums are open to the charge of great neglect as respects the dress of patients of the classes far above pauperism. The rule should be in private asylums, that each gentleman should be encouraged to dress according to his station, and ladies should not be allowed to forget

* "At the suggestion of Her Majesty's Commissioners in Lunacy, we have caused three of the patients, schoolmasters, to amuse the others in the winter evenings by reading selected passages aloud; and the practice has been attended with the happiest effect."—Report of the Dunstan Lodge Lunatic Asylum (the asylum for the united counties of Cumberland and Westmoreland) for the year ending January 1, 1848, p. 8.

† These principles, thus ably laid down by Dr. Conolly, may be found variously illustrated in detail in many of the Reports of asylums for the insane. Of those which have reached us, we would specify, as being well worthy of notice, the Reports which for the last eight years have been published by Dr. Browne, of the Crichton Royal Institution for Lunatics at Dumfries; the Fiftieth Report of the Friends' Retreat near York; the Reports of the Dunstan Lodge Lunatic Asylum for 1846 and 7; the Reports of the Surrey Lunatic Asylum, 1843 to 6; the Report by Dr. Skae, of the Royal Edinburgh Asylum, for 1847, &c. &c.

that they are ladies. Their friends are sometimes more in fault than they, and the patients are disfigured against their will; but it is disadvantageous to them to be thus permitted to fall into a negligence characteristic of advanced and incurable forms of disorder."

On the *government of asylums*, and on the *appointment and various duties of the attendants* of different classes, we can, in a Report like the present, only refer in terms of commendation, to the 5th, 6th, and part of the 7th chapters of Dr. Conolly's treatise, the whole of which merits the most careful perusal by all in any way associated either as commissioners, visitors, medical officers, &c., with such institutions.

29. *Diet.*—" It is ordained that man should be capable of associating enjoyments with the mere partaking of food, which communicate satisfaction to the mind; and where the object is the restoration of mental tranquillity, attention to the diet, its preparation and serving, rank among remedial measures acting on the mind as well as on the body. All habitual physical discomfort is opposed to mental recovery, and a scanty, ill-cooked, unwholesome diet, creates a chronic uneasiness and dissatisfaction, impairs the health, and increases the mortality of an asylum."

The diet of the insane ought to be liberal, and, except where contraindicated (as in recent mania, &c.), of a more stimulating character than that of the population at large. A daily allowance of meat and porter is, in our opinion, indispensable. The dietaries of the county lunatic asylums, much though they have of late years improved, still err on the side of deficiency rather than of excess. Of those which have reached us, we would particularise the diet tables of the Suffolk County Asylum, as requiring amendment.—(Tenth Annual Report of the Suffolk Lunatic Asylum, p. 26, December 1847.)

30. *Religious Services and Instruction.*—" Into places of abode where words of kindness were once never heard, ministers of a religion of mercy have penetrated, and to those to whom tones of reproach or violent menace were once alone familiar, spiritual consolation has been successfully addressed, and lessons of instruction have been afforded with advantage."

" There can be no doubt," continues Dr. Conolly, and the observation embodies our views of the general extent to which the services of the church can be rendered available in the treatment of the insane, " that the arrangements made in an asylum for the observance of Sunday, may be such as to assist the general plan of a physician, whose endeavours are understood to be directed to curing his patients by tranquillizing the excited, and soliciting such faculties as are disordered or oppressed to ancient and customary exercise."*

Instruction, i.e. mental exercise, is *beginning* to occupy the place it ought to do in the treatment of mental disease. Dr. Browne, of Dumfries, has done more than any one of whom we are acquainted, in carrying into practice an intellectual treatment of intellectual disorders. It has been well observed by him,† that " while self-analysis is destructive, while the contem-

* Did Dr. Conolly's subordinates but imitate his moderation, the following remark would never have been put in type. " Were we to take an equal number of sane persons, from the same rank of life, with characters and habits such as those of the generality of persons brought to this asylum, I do not think we should find a greater portion of them likely savingly to receive the truths of religion than is actually met with among my afflicted charge. And this is very remarkable," &c. &c. (which, if true, it certainly would be).—*County of Middlesex Pauper Lunatic Asylum. The Chaplain's Report, presented to the Committee of Visitors, January 12th,* 1848.

† Seventh Annual Report of the Crichton Royal Institution, &c., p. 26. 1846.

plation of one idea or class of ideas is itself disease, and while the cultivation of the feelings tends to exaltation of sentiment, excitement, and extravagance, the operations of the intellect are discursive, and induce the application of the faculties to matters external to the mind, or foreign to its sources of disquietude, and incompatible with perturbation or uneasiness."

We would earnestly direct the attention of those of our readers engaged in the treatment of the insane, to the illustrations of the manner in which he carries out these views contained in the Report we have just quoted from, as also in the monthly notes of the 'New Moon,' a periodical written entirely by his patients, and most interesting to the pyschological student.*

§ V.—*Restraint.*

Unconnected with all the improvements which we have been considering, stands the subject of restraint. On the one hand, Dr. Conolly most strenuously opposes its employment in any shape or form;† on the other, Dr. Thurnam, and those connected with the Retreat, as also Dr. Browne, Sir Alex. Morison,‡ &c. &c., while equally condemning the cruelties which formerly were practised on the insane, and while freely admitting that the use of restraint requires the most careful medical supervision, and is as unfit an agent to intrust to superintendents or other servants as ever opium would be, still assert that instances of furious or suicidal mania do occur from time to time in which the employment of mechanical restraint is attended with less injurious effects than are the struggles which, without such means of prevention, do occur between the attendants and their patients; struggles sometimes terminating fatally.§

In this latter view we concur, and have recently placed our opinion on record,‖ and so likewise do her Majesty's Commissioners in Lunacy. We cannot better elucidate our views on this subject than by quoting the following passage from the Fiftieth Report of the Retreat, containing as it does the well-sifted experience of half a century.

"It would be a very great and dangerous mistake to suppose that the measure of real liberty and comfort prevailing in hospitals for the insane, is at once to be estimated by their having entirely abandoned or otherwise the use of mechanical restraint. Those who are acquainted with the interior economy of these establishments must know how rare it is to meet with attendants who really possess the admirable power of moral suasion: we fear also it must be admitted that brute force is the means by which, in one form or another, a large majority of mankind seek to accomplish their purposes in

* "PERIODICAL. In resuscitating correct and healthy habits of thinking, in developing powers hitherto unknown or lost in the confusion consequent upon disease, and in giving a sphere of activity to minds which are only partially impaired, the 'New Moon' has proved most beneficial. As a pecuniary speculation, it has been fortunate. The proceeds have been scrupulously applied to enlarge the happiness of those by whom they are created. Allowances have been granted to patients on their discharge from the asylum; even public charities have assisted."—Report, 1847. Such an undertaking deserves the patronage of all interested in psychological medicine.

† See the various Reports of the Middlesex Lunatic Asylum: Clinical Lectures, &c.; Lancet, 1845-6; Construction, &c., of Lunatic Asylums. Appendix.

‡ Dr. Thurnam, Statistics, &c.; Reports of the Retreat, Dumfries and Surrey Lunatic Asylums, &c. &c.

§ See Report on the inquest of John Cottingham, 'Times,' Oct. 25, 1847, quoted in the Appendix to the Report of the Dunston Lodge Lunatic Asylum, 1847.

‖ See letter to the Editor of the Times, Oct. 15, 1847, quoted in the Report of the Dunston Lodge (Cumberland and Westmoreland) Lunatic Asylum, 1847.

their intercourse with the weak; and it cannot be conceded that the exclusion of straps and strait-waistcoats necessarily banishes every form in which that vulgar power can be exercised. Few indeed are the cases, if there be any, which can be said to be entirely without the range of moral influence, or to be wholly unaffected by the manner in which whatever is required to be done, is accomplished; but there doubtless are cases in which full liberty of action cannot be allowed with safety to the patient or to others: cases of violence, which no charm of thought, or eye, or voice, or manner, can sufficiently control, and to which physical power in one form or another must be temporarily applied. The question is not between moral suasion and vulgar force, but between different modes of outward constraint; and there are certainly other means than ligatures for the prevention of dangerous action by which the unhappy maniac may be at least equally tormented and degraded. . . . . There can be no doubt, however, after the satisfactory experiments which have been made, that the use of mechanical restraint should be considered as a serious deviation from the general practice of management, and that it should not be resorted to but on extraordinary emergencies, and under the personal inspection, if possible, of the (*medical*) superintendant of the establishment."

The editor of the 'Medico-Chirurgical Review'* likewise expresses himself in favour of a modified system of restraint.

Mr. Labatt has recently published an essay† on the use of restraint, which is, however, but confusedly written, and throws no new light upon the subject.

That distinguished veteran psychologist Jacobi has lately asserted the occasional necessity of mechanical restraint in the treatment of insanity.‡

§ VI.—*Diagnosis*.

Delirium tremens, hysteria, and phrenitis may, and have been, mistaken for insanity. Dr. Steward, in a recent work, has some excellent remarks on this subject.§

31. *Delirium Tremens*.—"The disease," he says, "most likely to be confounded with insanity is delirium tremens; but the bustling, agitated manner, the intense expression of anxiety, generally about matters of business, the unequal enunciation, the tremulous tongue, the shaking frame, supported by the fact of the attack having succeeded a fit of hard drinking, are ample for the purpose of right judgment."

32. *Hysteria*.—"Hysteria, in some of its forms, resembles insanity. There are, indeed, some cases of hysteria which present little or nothing of the hysteric character, and yet are purely so; and in these cases the diagnosis is not so easy as we might wish, considering the nature of the responsibility. In the absence of the hysterical paroxysm—which, in difficult cases, we may wait for hours without witnessing—the symptoms which best mark the distinction between hysteria and mania are the variableness and incongruity of the symptoms in hysteria; the peculiar coating of the tongue—something like

* The Medico-Chirurgical Review, No. 89, July 1846, Art. IV.

† An Essay on the Use and Abuse of Restraint in the Management of the Insane, &c., with copious notes, pp. 76. Dublin, 1847.

‡ Ueber die gänzliche Beseitigung körperl. Beschränkungsmittel, &c.; von M. Jacobi.—Allgemeine Zeitschrift für Psychiatrie. Erster Band, Viertes Heft.

§ Practical Notes on Insanity, by John Burdett Steward, M.D., pp. 122. London, 1845. These notes are the production of a thoroughly practical man, and contain in a short space much valuable matter.

the silver paper covering a macaroon when cracked; the low muttering delirium; the closed eyes; the peculiar subdued and hardly visible smile, sometimes observed creeping, as it were, over the countenance; above all, tranquil sleep, succeeding generally about the evening. These distinctions might be sufficient, but there is one other more certain than any, but which experience alone can appreciate, and that is the general appearance of the patient. Chorea could only deceive the ignorant and inexperienced."

33. *Phrenitis.*—"Insanity may be distinguished from the delirium of phrenitis by the absence of fever in the former, and the state of the pulse, tongue and surface; all of which, in phrenitis, mark increased action in the circulating system, as well as great functional disturbance. At the same time, we must not forget that that form of symptomatic mania, accompanied by increased circulation through, or congestion in, the vessels of the brain or its membranes, not only resembles phrenitis, but very often ends in it. In such cases we can only become acquainted with the true state of our patient when, simultaneously with the removal of the functional derangement, subside also the maniacal symptoms. If, however, we see the case in its commencement, we ought to have no doubt as to the character of the approaching evil; and if our measures be prompt and active in this stage, the mischief may generally be arrested.

"The delirium of fever, and that often present in the last stage of phthisis, is attended in each by concomitant symptoms, sufficiently marking its origin."

"The diagnosis, therefore, in insanity, is easy enough."

34. *Feigned Insanity.*—Besides having to discriminate insanity from diseases simulating it, the medical practitioner may be called upon to decide how far, in any given case, the symptoms present are those of insanity, or are assumed for the purpose of simulating that disease. Now, while the diagnosis of real disease, as phrenitis, hysteria, &c., from insanity is easy enough, the discrimination between real and feigned insanity must always be a matter of great difficulty. We had occasion to discuss this subject in an essay in the second number of the 'Journal of Psychological Medicine,' from which we extract, with some slight abbreviation, the section on the diagnosis:—

"Section 5. *The Diagnosis.*—Seeing, then, that the diagnosis between real and feigned insanity is attended with so great difficulty, it becomes of importance to endeavour to discover rules which may guide us in the examination of any supposed case of feigned mental disease.

"There is only one broad and simple rule—viz., *an intimate acquaintance with the varied phases of intellectual and moral disorder which may affect the human mind;* and, in proportion to the extent of his knowledge of this subject, will be the physician's success in deciding on suspected cases.

"Certain distinctive marks which are likely to exist between a case of real and one of feigned insanity may, however, be deduced from this knowledge.

"A few such diagnostics, I have, in the following section, endeavoured briefly to present, under the heads of mania, dementia, (including chronic mania,) monomania, melancholia.

"*a. Mania.*—Although mania might be simulated, so as readily to impose upon those not acquainted with the symptoms of the disease, I feel satisfied that any one conversant with the treatment of insanity would detect the imposter.

"It is a physical impossibility for a person of sound mind to present the *continued* watchfulness, excitement, and resistance to the influence of medicine, which characterise this disorder.

"Again, the premonitory symptoms, as diseased action of the moral feelings,

disorder of the digestive functions, headache, sleeplessness, &c., will, in a case of feigned insanity, be absent.

"A careful consideration of this point, together with the continued watching of the suspected person for a day or two, and the administration of an ordinary dose of opium, tartrate of antimony, colocynth, &c., would go far to aid in forming a correct diagnosis. Farther, the insensibility to all external impressions, as hunger, thirst, &c., which pre-eminently distinguishes mania from the other varieties of mental disease, as also the total absence of all sense of decency and care for cleanliness, will not readily be for any period simulated.

"Violence and incoherence of thought are the only indications associated in the public mind with mania, which being present while the above-noticed premonitory and accompanying symptoms are absent, would readily enable us to detect the impostor.

"The frequency of the pulse has been much insisted on as a diagnostic of mania, particularly by Drs. Rush and Foville, and the late Sir H. Halford:

> "My pulse, as yours, doth temperately keep time,
> And makes as healthful music: it is not madness."—*Hamlet.*

"The following table would, however, lead to the conclusion that frequency of the pulse cannot be considered as diagnostic of mania. I extract it from Professor Guy's 'Principles of Forensic Medicine.' The observations were made on eighty-nine insane females by Leuret and Mitivié, and on fifty healthy persons of the same sex by Dr. Guy. The results are expressed in per centage proportions of the whole number of observations, and show that *in forty-two per cent. in healthy females the pulse was above ninety, while in insane females, in only nineteen per cent. did it exceed ninety.*

State of Pulse.*	Leuret and Mitivié.	Professor Guy. Standing.	Professor Guy. Sitting.†
Above 100	8 per cent.	30 per cent.	12 per cen
80 to 99	11 "	12 "	18 "
80 to 89	43 "	24 "	20 "
70 to 79	33 "	22 "	32 "
60 to 69	4 "	12 "	14 "
Under 60	1 "	0 "	4 "

"*b. Dementia, (including chronic mania.)*—This disorder would be more readily feigned than mania.

"Although here there is present partial incoherence of thought, the patient going off at a tangent from the subject of conversation, he generally, when questioned, is enabled to fix his ideas, and give a pertinent answer to a question put to him. Again, the perfect state of the memory of long past events, as compared with that of recent, is a striking feature of the real disease, not

* Those farther interested in the state of the pulse in the insane may consult, with advantage, an elaborate paper on the subject by Dr. Earle.—American Journal of Medical Sciences, No. xviii, art. 4.

† It being just possible that Leuret's observations were made in the sitting posture, Dr. Guy has given a column to that position also, which latter observations render the relative proportions above 90, in healthy females 30 per cent., in insane females 19 per cent.

likely to be simulated. The impostor, in his anxiety to impress his hearers with the perfect disorder of his intellect, would, in all probability, overact his part, and give to every question an absurdly false answer.

"Still, in the more aggravated forms of this disorder, the power, even for an instant, of fixing the ideas, and the memory of even past events are so entirely lost, that these points would not fail in establishing the diagnosis.

"In such instances, the previous history of the case would aid much in deciding as to the reality or simulation of the disease, the symptoms of confirmed dementia not generally presenting themselves but as a sequel to mania, monomania, or some other form of mental disease. Again, such persons are insensible to the operation of the passions of hope, fear, anger, &c., the emotions of which may, in those feigning dementia, perhaps be produced. Shakspeare, who evidently must have studied insanity from nature, notices this in that beautiful delineation of feigned dementia or chronic mania in the character of Edgar:

'My tears begin to take his part too much,
They'll mar my counterfeiting.'—*King Lear.*

"Foderé, in his 'Traité de Médecine Légale,' mentions having thus detected an impostor, simulating this variety of insanity, viz. by ordering the application of the actual cautery.

"*c. Monomania.*—The simplest form of this disease is characterised by the presence of a false idea, or hallucination, which hallucination might with considerable success be simulated.

"The most marked difference between a real and feigned case of monomania is in the condition of the power of reasoning. A real monomaniac cannot be reasoned out of his false ideas; and in the maintaining of them will set all the principles of logic at a defiance which the impostor would not, from a fear of discovery, venture to do. 'In real monomania, the patient never troubles himself to make the subject of his delusion square with other notions with which it has more or less relation; and the spectator wonders that he can possibly help observing the inconsistency of his ideas, and that when pointed out to him, he should seem to be indifferent to, or unaware of, this fact. In the simulator, on the contrary, the experienced physician will detect an unceasing endeavour to soften down the palpable absurdity of his delusions, or reconcile them with correct and rational notions.' (Ray, op. cit.)

"Again, the impostor, will endeavour to force his delusion on the notice of observers, while the real monomaniac rarely recurs to his false ideas, unless when questioned, or when the conversation bears upon the subject.

"These two points appear to me to be the safest grounds on which to endeavour to form a correct diagnosis between real and feigned monomania.

"The more complicated form of monomania—viz. that preceded and accompanied by perverted action of the moral powers, and in which the delusion is but a symptom of the existing moral disorder, is not likely to be feigned—still less likely to be successfully so.

"*d. Melancholia.*—The simplest form of melancholia, viz. that unattended by bodily disease, and exhibited chiefly in an obstinate refusal to answer questions, and in a total disregard of all that is passing on around, might be successfully simulated. A case of this nature occurred to me, which I had under my observation for several months, and where I did not even suspect that the disorder was feigned.

"In suspected cases, the endeavouring, as is recommended above, to excite one or other of the mental emotions, and careful observation, are the only diagnostic marks that occur to me.

"It is a disorder with which the public are not so well acquainted as with general or partial mania, and which is not, therefore, so likely to be feigned."

§ VII.—*Incubation.*

Dr. Forbes Winslow* has recently directed the attention of the profession to the period of the incubation of mental disease.

35. *Urgent necessity of attending to the Early Signs and Symptoms of Disordered Mind.*—"I have no hesitation in asserting," says Dr. Winslow, "that a large proportion of the 8736 incurable lunatics confined in the asylums of England and Wales, are reduced to this melancholy state by the neglect to which they were subjected in the incipient stage of the malady. . . . Incipient insanity, provided it be not the result of severe physical injury to the head, or has not a congenital origin, or is not associated with a strong hereditary predisposition, yields as readily to treatment as incipient inflammation or other ordinary diseases with which we have daily to combat. . . . . The value of the symbols of incipient cerebral mischief is often not sufficiently, if at all, estimated until it is too late to repair the injury done. The storm has come on; we have neglected to take the necessary precautions against the threatened hurricane, and the consequence is inevitable and irreparable loss—not of life, but of all that made life desirable! And then, as Dr. Burrows observes, 'comes the bitterness of self-accusation, and the unceasing regrets of the near connexions of the lunatic, because they have persevered in their wilful blindness till the calamity they deprecated has occurred.'"

36. *Duration of the Period of Incubation.*—"With reference to the average period of incubation, my experience accords with that of Esquirol and other distinguished Continental and British psychological authorities, who have maintained that this stage may last for months, and even for years, before the explosion takes place. Pinel has related the history of a case in which the disease must have been in this stage for no less a period than fifteen years! I have often been consulted by patients who have voluntarily confessed to me that for some considerable time they have heroically struggled against the encroachments of this disorder, and this contest has been carefully concealed from those most nearly related to and associated with them. The duration of this premonitory stage must of course greatly depend upon the intensity of the exciting cause and the strength of the predisposition."

37. *The Stages of the Period of Incubation.*—These Dr. Winslow divides into three.

1st. *The stage of consciousness.*—"As far as I can ascertain," he says, "from the confession of patients, from an attentive examination of the numerous cases which have come under my observation, and from a careful investigation of the history of other individuals, I am induced to believe that for a long period prior to the actual development of insanity the patient is conscious of the existence of cerebral disorder, and of a deviation from mental health. . . . . During the stage of consciousness, the friends of the patient sometimes perceive an alteration in his manner or temper, but these changes are seldom attributed to their proper cause—cerebral irritation. . . . . . In cases of insanity, accompanied by suicidal impulse, the stage referred to can usually be detected; but, alas! how seldom is it noticed until after an attempt, and often an effectual one, has been made upon the life! Reports of coroners' inquests, which daily

* The Incubation of Insanity, by Forbes Winslow, M.D. London, 1846. (*For private circulation.*)

appear in the ordinary channels of communication, contain ample evidence of this fact. It is almost invariably stated that the party who committed suicide had for some time previously been much depressed in spirits—had exhibited an irritability of temper—that his habits had become changed—that he had neglected his ordinary duties, and had been apprehensive of some approaching calamity. Yet these well-marked symptoms of cerebral disease had passed unobserved, nothing being done to save the individual from the fearful abyss into which he was about to be precipitated!"

2d. *The stage of weakened volition.*—"Following the stage of consciousness, we have that of weakened volition. . . . . . If, for example, the mind be allowed to dwell on any great loss which it has sustained, without an effort being made to rouse it from its torpid condition, strange unnatural fancies crowd upon the imagination. Conscious of the existence of these ideal creations, the individual may make an effort to dismiss them from his mind, and for a time he may succeed. The power of volition at last becomes lessened in strength, until all efforts to control the train of thought cease, and the individual abandons himself to the predominant morbid idea."

3d. *The stage of moral incoherency.*—"Among the earliest signs of approaching insanity is an alteration in the affections, the aversion being frequently in the direct ratio with the former attachment. . . . . . This tendency to take dislikes and aversions is not, as Dr. Conolly observes, confined to individuals. He refers to a case in which the patient, at the commencement of mania, complained of the difficulty he experienced in guarding against dislike to particular parts of a room or of a house, or of particular articles of furniture or of dress."

38. *Characteristic Symptoms of the Period of Incubation.*—1st. *The mental symptoms.*—"In this stage of cerebral disease, the patient manifests an earnestness about and a disposition to magnify trifles—to be inordinately depressed or elated by circumstances and feelings which would produce no effect on a properly-balanced and well-regulated mind. This is often followed by an excessive sensibility to impressions. The patient neglects his ordinary business, avoids the society of those with whom he has always associated—becomes suddenly extravagant in his habits—is subject to violent fits of passion—quarrels with his best friends about the most insignificant matters—becomes, without any cause, extremely jealous, and manifests a peevishness of temper and an impatience of contradiction; he has either a very exalted or low estimate of his own self-importance. A peculiar restlessness is one of the striking characteristics of incipient insanity.* A patient, not higher in rank than a keeper of a small country inn, and who was in the habit of consulting Dr. Conolly when he found his melancholy fits approaching, used at such times to complain of insufferable restlessness, without relief by day or night; and, striking his hand on his forehead, would express his misery by saying, with all the energy of morbid excitement, 'I am overwhelmed with a *sea* of thoughts.'"

2d. *The physical symptoms.*—Dr. Winslow calls attention to the premonitory symptoms of approaching insanity, evinced by a sense of tightness or constriction across the forehead, sometimes attended by noise in the ears, flashes of light, flushing of the face, &c.; by a state of watchfulness by night, and restlessness by day; by costiveness, by gastric and hepatic derangement. "The inability to sleep," he says, "is a symptom which ought never to escape careful

* The patient appears to realize the conceptions of the poet:

"I would not if I could be blest,
I want no other paradise but *rest*."

observation; I consider it one of the most valuable indications we possess of approaching insanity; it has never yet deceived me. Whenever I see this state of watchfulness by night, and restlessness by day, I feel that not another moment is to be lost. The *pulse* is the pulse of excitement; it is sometimes quick, and then the reverse. In incipient insanity it is an uncertain sign."

§ VIII.—*Pathology.*

I. MORBID ANATOMY.

39. The idea that the pathological cause of all cases of mental derangement, or even of the majority, consists in morbid alteration of the structure of the brain, and in the presence in the same of some one of the products of inflammation, is beginning to be doubted by those best qualified to judge in the matter, and insanity is being regarded more as a functional than an organic disease. Indeed, it may be asserted, without fear of contradiction, that no pathologist could in nine tenths of the cases of mental derangement* which prove fatal, take upon himself to say, from an examination of the brain, whether the person had during life been of sound mind or not.

Dr. Seymour has well pointed out the unsatisfactory relations in which morbid anatomy and mental derangement at present stand.

"I go on," he says, "to speak of the little advantage hitherto which morbid anatomy has contributed to our improvement in the understanding of cases of mental derangement, and hence in the art of *curing*—the first great object of every physician's inquiries.

"Sir Benjamin Brodie told me that he had examined very accurately with Mr. Tatum, surgeon to St. George's Hospital, the brain of a gentleman who had been confined for many years, nor could he ascertain any apparent alteration from ordinary structure. Many, many cases of a similar nature have occurred, but, above all, the numerous and permanent cures which have arisen from allaying functional disturbance, prove that mental derangement does not necessarily depend on organic disease of the brain. If a lunatic advanced in life dies of apoplexy, the effusion of blood or fluid into one of the ventricles of the brain, or, at least, the condition of the arteries which produced it, is considered quite enough to explain the preceding malady. In another case the blame is laid to the vesicles found in the choroid plexus; the observer forgetting that such cases occur in very large numbers, without any degree of mental aberration ever having been observed. At another time, adhesion of the membranes dependent on age, or complete ossification and obliteration of the sutures, have been quite enough to satisfy the observer, even though he finds the same appearance next day in a patient who has died of carcinoma of the rectum, or stricture of the bowel. And this was still more the case, when all disease was considered to be the result of inflammation, acute or chronic; any appearance of thickening or increased vascularity, however old the former or recent the latter, accounted, in default of other appearances, for the mental aberration of the patient. For example, several cases of post-mortem examination are related in the early part of the work of the late Sir W. Ellis. Now I feel satisfied that in no one of these cases are there any appearances which I have not seen in patients who have died of disease wholly unconnected with disordered mind."

Under this category must be included the recent investigations of Dr.

* We here use the word *mental derangement*, as including all departure from the healthy manifestations of mind, and as opposed to fatuity and paralysis, where the mind is not so much deranged as destroyed, and its manifestations entirely suspended. In these latter instances organic alteration of the brain is generally present.

Boyd (Edin. Med. and Surg. Journal), and of Dr. Hitchman (Lancet), into the morbid anatomy of insanity.

"Another circumstance," says Dr. Burnett,* "which has not a little contributed to retard success in the treatment of insanity, and to divert the attention from this great object, has been the very conflicting evidence furnished by pathology, but especially by morbid anatomy. While one declares that the disease is inseparable from organic lesion of the brain, however local in its sphere, or microscopic in its character, another asserts that he has made autopsies without number upon the bodies of those who have died insane, not only in which no manifest alteration, either in character or consistence, could be detected in the brain, but in which he has found a great variety of morbid changes present in the organs remote from the supposed seat of the affection."

40. *Gangrene of the Lungs in the Insane.*—Dr. Fischel, of Prague,† has drawn attention to the frequency of gangrene of the lungs in the insane of that city. From an extended series of observations he concludes that this condition is found in 1·6 per cent. of all those who die of sound mind, and in 7·4 per cent. of all cases of insanity terminating fatally. Such is not the case in this country, nor, according to the experience of M. Guislain, in Belgium either. We have only seen one case of gangrene of the lungs in the insane, and M. Guislain‡ met with only five cases during a period of fourteen years, in which he enjoyed most extensive opportunities of observation.

II. CHEMICAL PATHOLOGY.

A reasonable hope may, we think, be entertained that further researches into the chemical composition of the fluids in the insane will at last throw light on that obscure subject, the pathology of insanity. The established fact of the hereditary transmission of insanity would at once point out an analogy between it and other hereditary blood-diseases, as gout, rheumatism, and scrofula. Again, the influence which certain medicinal agents,§ as opium, alcohol, the laughing gas, tobacco, &c.—agents which we know to act by combining and circulating with the blood—exert on the mental manifestations, would likewise tend to demonstrate the dependence of a healthy mental con-

* Insanity Tested by Science, and shown to be a Disease rarely connected with permanent Organic Lesion of the Brain. By C. M. Burnett, M.D. London, 1848.

† Vierteljahrschrift fur die praktische Heilkunde, 1847; quoted in the Gazette Médicale, Fevrier 1848.

‡ Gazette Médicale, 1836 and 1838.

§ See a most interesting paper "on the Psychological Effects of Certain Medicinal Agents," in the second number of the Psychological Journal. We regret that our limits prevent us from liberally extracting from this valuable essay.

A recent writer in the 'British and Foreign Medical Review' (January 1847), with reference to this subject, says, "Whatever opinion we may hold in regard to the much-vexed question of the connexion between mind and body, there can be no doubt of the influence which the condition of the latter exerts over the operations of the former; and there are no more striking examples of such an influence than those which are presented by the introduction of alcohol, opium, hachisch, nitrous oxide, or some other intoxicating substance into the current of the circulation. That the presence of a minute portion of any of these substances—a portion almost too minute to be recognised by ordinary chemical processes—in the blood which is passing through the capillaries of the brain, should so alter its relations to the nervous substance as to produce results which manifest themselves in an entire change of the ordinary course of psychical phenomena, must always be included, we apprehend, as a fundamental fact in any theory that may be framed by philosophers who please themselves with speculating on this mysterious question."—P. 219.

dition on a healthy, i.e. normal state, of the fluids of the body. Such also is the inference to be drawn from the effect of the retention of urea in the system exerts over the mind. It is, therefore, with peculiar satisfaction that we draw the attention of our readers to recent investigations into the chemical pathology of insanity.

41. *Chemical Pathology of the Urine.*—"Some attention," says Dr. Burnett,* "has been lately paid to the urine of the insane by Erlenmeyer,† Heinrich,‡ Sutherland and Rigby,§ Bird,|| Jones,¶ &c. The most remarkable feature is the excess of the ammonia in the form of carbonate, urate, hydrochlorate, or the ammoniaco-magnesian phosphate. It must not be overlooked that the condition of the urine in these cases may take its character from the low degree of organization in the bladder, which accompanies, more or less, all nervous affections. Mr. Blizard Curling** has alluded to this fact, and he calculates that the alkaline state of the urine owes itself, in some instances, to a loss in the natural sensibility of the bladder, or to a secretion of alkaline mucus from inflammation set up in that organ from the same cause."

Dr. Bence Jones†† has recently investigated the amount of earthy and alkaline phosphates in cases of insanity. "The variation of the phosphates in insanity," he says, "requires a very extended investigation; and this paper is a slight sketch or beginning of a subject which must be filled up and completed by those who have time and means at their disposal."

The following tabular view represents the results of Dr. Jones's researches:—

	Earthy phosphates.		Specific gravity.	Alkaline phosphates.	Total.
Cases of General Paralysis:					
Case 1 . .	1·50	per 1000 urine	1028·6	5·40	6·09
Same case . .	1·17	,,	1023·3	2·97	4·14
Case 2 . .	·79	,,	1022·0	1·23	2 02
Case 3 . .	·41	,,	1016·6	5·36	5·77
Case 4 . .	—	,,	1018·3	—	1·30
Case 5 . .	—	,,	1006·7	—	1·35
Cases of Mania:					
Case 1, during attack	1·32	,,	1029·3	7·58	8·90
Ditto, convalescent	·67	,,	1020·0	2·44	3·11
Case 2 . .	·42	,,	1023·3	4·28	4·70
Case 3 . .	—	,,	1025·9	—	1·26
Case 4 . .	·74	,,	1015·3	·38	1·12
Ditto . .	·72	,,	1015·9	·46	1·18
Cases of Melancholia:					
Case 1 . .	·67	,,	1024·3	3·36	4·03
Case 2 . .	—	,,	1011·3	—	2·71
Case 3 . .	·71	,,	1025·9	3·08	3·79
Case 4 . .	1·47	,,	1027·9	2·34	3·81
Case of Senile Dementia	·71	,,	1021·0	2·10	2·81

* Op. cit. p. 48. † Observat. Physiol.-Pathol., &c. De Urina Maniacorum.
‡ Haser's Arch., vol. vii, 2; also Zeitschrift für Psychiatrie. Dritter Band. Erstes Heft.
§ Medical Gazette, June 1845. || Urinary Deposits, p. 188.
¶ Medico-Chirurg. Transactions, vol. xii, p. 21. ** Medical Gazette, 1836.
†† Lancet, September 11, 1847.

The conclusions which he arrives at are thus stated:—

"From the five cases of 'general paralysis of the insane,' no very certain deduction can be made. In four of the cases the disease was in an early stage. In two of these four the total amount of phosphates is diminished; in the other two the phospates are about the natural quantity. As regards the earthy phosphates there is certainly no increase in their amount in the four analyses here given. The fifth case had been for many years in St. Luke's Hospital. The decomposition of the urine was probably the cause of the low specific gravity; but this would not have altered the amount of alkaline phosphates, which are certainly much below the healthy quantity.

"The amount of the phosphates varies in the different cases remarkably; far too much to admit of accurate deductions from so few analyses. General paralysis being a chronic disease, I do not expect that even a very extended inquiry will give any positive results; and it is on this account I would rather direct further directions to those cases of insanity in which acute paroxysms occur, such as cases of mania. Of the four cases of mania in which I examined the urine, the first is the most interesting, because in it I think there is evidence of that increase of the amount of phosphates excreted during a paroxysm, which I hope further researches will confirm; when the patient was convalescent, the amount of phosphates is found to be much diminished.

"In two other cases of mania, in which there were no acute symptoms, the amount of phosphates is so much diminished that it approaches closely to that diminution of the phosphates which I have observed in some cases of delirium tremens. This point also requires a far more extended inquiry. Are there two states of mania—one, in which the phosphates are increased; the other, in which they are diminished? In delirium, I shall show the probability of the existence of two such states. In mania, it seems reasonable to expect that the phosphates would be increased during the paroxysm; but the diminution of their amount, if proved, would be of equal interest. At present, however, the facts want to be proved; and it is desirable to do no more than notice the distinction, for the purpose of directing inquiry to the subject.

"The four cases of melancholia on which my analyses were made give no marked results: all were recent cases. The contrast between the amount of alkaline phosphates in the last case of melancholia and the first case of mania is, perhaps, worthy of observation."

42. *Chemical Pathology of the Blood.*—Dr. Burnett,* in his treatise on 'Insanity tested by Science,' &c., states the blood to be the seat of insanity. "Insanity," he says, "is not and ought not in the first instance, and often to the very last, to be regarded as a disease of the brain; but as a disease float-

* We cannot withhold the expression of our most unqualified surprise that Dr. Burnett should appear to regard himself as the originator of this theory, and that no mention is made in this work of the earlier publication by others of a similar opinion. Common justice induces us to extract the following passage from the 'British and Foreign Medical Review' for January, 1847: "The marked correspondence which may be traced between the phenomena of insanity and those which are induced by the introduction of such substances (alcohol, opium, &c.) into the blood, must not be overlooked in any attempt to arrive at the true pathology of the former condition, or to bring it within the domain of the therapeutic art. *We believe that Mr. Sheppard may claim the merit of having first prominently directed attention to this method of viewing the phenomena of insanity;* and we would take this opportunity of stating our present feeling, that in our unfavorable criticism of his little work 'Insanity a Blood Disease,' (see vol. xvii, p. 526), we had rather too strongly before our eyes the *demerits* of his hypothesis, than its positive value." (p. 219.)

ing in the blood, having no fixed or local character, but producing the morbid phenomena which are comprehended under the title of insanity; it arises from a derangement or mal-assimilation of those particular materials of the blood—carbon and phosphorus—which constitute the bulk of the elementary tissue of the brain and nervous system generally. When therefore we say we believe the disease to be in the blood, we consider it to exist there in the form of either deteriorated or wrongly constructed chemical compounds. In this sense it must be the *seat*, although Fletcher and Broussais consider it only in the light of the *vehicle* of disease."

"There is," he continues, "much experience and no slight argument to induce us to direct our inquiry to the condition of the blood in mental diseases. And from close observation, we are convinced that the disease called insanity, though unavoidably connected in some instances with organic lesion, and even destruction of the brain, as after many mechanical injuries, is in four cases out of five, in the first instance, a functional disease, quite unconnected with any morbid alteration or change of structure in the brain; and in many of these four cases it continues through a long series of years still a functional disease, kept up by mal-assimilation. It is, in fact, according to strict pathology, a disease of the blood, but pre-eminently so from its non-inflammatory character preventing the morbid alteration of structure, more or less quickly consequent on inflammatory diseases. We believe that insanity in such cases is immediately caused by the deterioration of the fatty matter of the blood, by which the carbon and phosphorus are unable to combine in healthy proportions, which substances in a normal state, it is known, form the elementary tissue of the brain and nerves, and which chief constituents fail to make that part of the organism of the body amenable to the operation of the vital and mental principles conveyed in the blood.

"Whether this may arise from causes immediately connected with the processes of primary and secondary assimilation, or whether it is consequent upon a particular state of the venous circulation in the head, is uncertain; but the fact made known by Braconnot and Chevreul, that the fatty matter united with phosphorus, which constitutes the essential substance of the brain and nerves, has been found by them in the blood, thus combined, favours the idea that the original fault is in the process of secondary assimilation, by which the carbon and phosphorus unite with other matters to form new and abnormal compounds. We, however, incline more to the belief that the true separation of cerebral and nervous matter, however essentially dependent upon healthy secondary assimilation, is, nevertheless, only finally completed in the blood-vessels after they have entered those tissues."

The happy results following Guggenbuhl's exertions on behalf of the cretins,* illustrate, as Dr. Burnett has pointed out, the truth of this theory. The marked improvements following the removal of such cases from within the influence of the exciting causes of their disease, viz. deteriorated air and food, "put to silence any hypothesis that assumes that the organization of the brain was malformed in the common sense of the word." Again, argues Dr. Burnett in another chapter, "the success which attends the efforts of many enlightened physicians to restore in some degree the mental powers of the idiotic and imbecile, is again a verification of the same principle we are contending for. If these poor creatures had organic disease or malformation of the brain, they would manifest no improvement when exposed to the action of those second causes which have been so long denied them; but if the natural organization of the brain has only been arrested, there is both reason

* See Twining on 'Cretinism.'

and hope that human efforts may partially, though not entirely, restore them. This is precisely what has taken place."*

Dr. Burnett has, in the first three chapters of his treatise, with considerable ability developed the theory of mental derangement, being primarily a blood disease, and has thus done much to forward the pathology of insanity. We are, however, tempted to conclude this paragraph with a continuation of the passage we have already in part quoted,† from the 'British and Foreign Medical Review,' for January 1847, and which, we think, in a measure applies to Dr. Burnett as it does in the reviewer's opinion to Mr. Sheppard, the originator of this theory, that insanity is a blood disease. "His (Mr. Sheppard's) notion," says the writer, "was, we are ready to admit, quite correct in regard to a certain class of cases of insanity: and his fault was that which is so common with young writers, namely, hasty generalization; the same idea being most unwarrantably stretched, so as to include *all* forms of this disease. There can be no doubt that the properties of the blood may be perverted by abnormal changes going on within the system, as well as by the direct introduction of poisonous substances from without; and its due relations to the nervous structure may be thus completely changed, so that psychical operations are seriously interfered with, and a form of insanity develops itself which is capable of being removed by the adoption of measures calculated to eliminate the morbific matter from the blood, and to restore it to its pristine purity. And we have little doubt that a part, at least, of the phenomena of those forms of insanity which are brought on by what are commonly termed *moral* causes are referable to the same agency; for every physiologist well knows how much the excitement of the passions and emotions involuntarily and, indeed, unconsciously affects those organic functions by which the blood is prepared and renovated; and how speedily any affection in the depurating actions (those of the liver and kidney more especially) is manifested in the abatement or irregularity of the functional powers of the nervous centres. We believe that an attentive study of the etiology and phenomena of insanity will gradually lead to the establishment of well-marked distinctions between this class of cases and that in which diseases of the cerebral structure itself is the proximate cause of the disordered psychical manifestations; and that in proportion as this difference is kept in view will be the clearness of our prognosis and the efficiency of our remedial measures."

III. MENTAL PATHOLOGY.

43. *Double Consciousness.*—Of the many suggestions hard to solve, which the symptoms of insanity present to the mental philosopher, there are none more so than those which arise from a contemplation of that most remarkable of mental phenomena, double consciousness, a condition in which the individual has a double existence, retaining while in the one no recollection of the transactions of the other.

Dugald Stewart‡ defines consciousness as "the immediate knowledge which the mind has of its sensations and thoughts, and in general of all its present operations. From consciousness and memory," he adds, "we acquire the notion, and are impressed with the conviction of our own personal identity." Now, in the diseased state we are considering, there are *two distinct* con-

* See notes on the Parisian Lunatic Asylums, by Dr. Stubbs, 'Journal of Psychological Medicine,' No. 1, January, 1848.

† See foot-note, page 403.

‡ Outlines of Moral Philosophy.

sciousnesses apparently unconnected one with the other; as it were the manifestation of a double mind in one body.*

Two such cases have lately been recorded, one by Dr. Skae,† the other by Dr. Browne.‡

In Dr. Skae's case, religious melancholia, alternated with a sound state of mind. "From an early period in the history of this case," says Dr. Skae, "it was observed that the symptoms displayed an aggravation every alternate day. On each alternate day the patient will neither eat, sleep, nor walk, but continues incessantly turning the leaves of a Bible, complaining piteously of his misery, &c. &c. On the intermediate days he is, comparatively speaking, quite well, enters into the domestic duties of his family, eats heartily, walks out, transacts business, assures every one he is quite well, and appears to entertain no apprehension of a return of his complaints. What is chiefly remarkable and interesting in the present features of the case, is the sort of double existence which the individual appears to have. On those days on which he is affected with his malady he appears to have no remembrance whatever of the previous or of any former day on which he was comparatively well, nor of any of the engagements of those days; he cannot tell whether he was out, or what he did, nor whom he saw, nor any transactions in which he was occupied. Neither does he anticipate any amendment on the succeeding day, but contemplates the future with unmitigated despondency. On the intermediate days, on the other hand, he asserts that he is quite well, denies that he has any complaints, and appears satisfied that he was as well the previous day as he then is. On that day he transacts business, &c. &c., and distinctly remembers the transactions of previous days on which he was well. He appears, in short, to have a double consciousness—a sort of twofold existence—one half of which he spends in the rational enjoyment of life and discharge of its duties; and the other in a state of hopeless hypochondriacism, amounting almost to complete mental aberration."

Dr. Browne's case appears to partake more of the cameleon hues of hysteria, consisting of "trances of two hours, occurring repeatedly during each day," and yielded to a moral impression, to the apprehension of being removed to the vicinity of a lunatic asylum, and to the suspicion of being regarded as of unsound mind.

44. *Criminal Insanity.*—The various cases of presumed mental derangement which have recently been the subject of criminal prosecutions, have led to the frequent discussion of *the question of responsibility and irresponsibility of the partially insane.* Our limits will only permit us to name the recent publications on the subject, to which we would wish to refer our readers for an exposition of this most intricate question.

1. 'Clinical Facts and Reflections;' also 'Remarks on the Impunity of Murder in some Cases of Presumed Insanity;' by T. Mayo, M.D. Lond. 1847.

2. 'The Consciousness of Right and Wrong, a Just Test of the Plea of Partial Insanity in Criminal Cases;' by C. Lockhart Robertson, M.D. Edinburgh, 1847.

3. 'Criminal Insanity;' a review of these two essays. 'Journal of Psychological Medicine,' No. I. January 1848.

4. 'British and Foreign Medical Review;' July 1847. Article 16.

5. 'The Plea of Insanity in Criminal Cases;' by Forbes Winslow, M.D.

* See a curious book, by Dr. Wigan, 'The Duality of the Mind, &c.' which our limited space forbids us noticing.

† Case of intermittent mental disorder of the tertian type with double consciousness. 'Northern Journal of Medicine,' No. 14.

‡ Case of double or diseased consciousness. 'Phrenological Journal,' July, 1847.

§ IX.—*Medical Treatment.*

Considerable attention has lately been devoted to the medical treatment of the various forms of mental disease.

Her Majesty's Commissioners in Lunacy, in the Appendix to their last Report (1847), have collected much valuable information on this subject; and several authors, particularly Dr. Seymour and Dr. Williams, have recently treated of it in their published works.

"If," observes Dr. Seymour, "there is no evidence of morbid growth or change existing, marked by palsy (especially of the lower extremities), fits, loss of memory, impaired vision, deafness, &c., we may fairly believe that the mental derangement is the result of disturbance of the functions of the brain, either originally or secondary to disease of some important organ at a distance; and we are bound by every sense of duty, by every reason which ought to direct the conduct of the physician, to apply the resources of our art to its cure.

"As a prefatory remark to speaking of treatment," says Dr. Steward, "I would wish to impress upon the minds of my readers the fact too often lost sight of, that insanity, generally speaking, in its early stages is a curable disease; that the first period of its approach is the time when treatment is most effective; and that the want of proper management at this critical moment, and, as is too often the case, the total absence of medical treatment, constitute the true cause of that great proportion of incurable cases which has made insanity the opprobrium of medicine. . . . . In laying down a plan for the medical treatment of the insane, it should always be borne in mind that in the majority of cases we have difficulties to encounter, not present where the mind is perfect. Not only are generally closed against us all the usual sources of information, but having formed our judgment and decided our plan of treatment, we have still, with few exceptions, to overcome the difficulty of determined opposition to the administration of remedies. Nothing is more easy than to prescribe; the difficulty is to ensure compliance with our prescriptions, and this difficulty contracts within narrow limits our list of remedies. Still there remain to us ample means, if judiciously employed, of answering every useful indication. . . . . In insanity, not only must we depend in great measure upon our own unaided judgment as to the nature and state of the disease, but we must so select our remedies, and so choose our mode of exhibition, as to ensure the expected result without consulting the will of our patient; and as the difficulties to be overcome are always regulated by the form of the maniacal affection, it stands to reason that, to ensure success, experience is equally important in this as in any other branch of medicine." (Op. cit.)

We shall, in the present section, endeavour to present a condensed view of the remedies which have lately been suggested or discussed for the medical treatment of the various varieties of insanity.

45. *General Bleeding.*—Her Majesty's Commissioners in Lunacy state that "the medical men who have replied to our inquiries are nearly uniform in condemning the practice of venesection, or general bleeding, in ordinary maniacal cases. . . . . . . General bloodletting is resorted to only in cases of a peculiar description, viz. in cases displaying plethora, which threatens apoplexy, and never for the purpose of quieting a paroxysm of excitement." (Report, 1847.)

In mania, however, as Dr. Williams has well observed,* "*irritation* is often confounded with *inflammation.* The maxims so ably taught by Mr. Travers are forgotten; the object being to calm the action, not to diminish from the power—this nervous power being much more easily depressed than raised. Should this [illegible] be neglected, and bleeding be ordered, stupor, or coma, or confirmed mania may be the consequence. In many cases where there is the most ferocious delirium, with great muscular power, yet the pulse is very quick, weak, and fluttering, and even the slightest depletion at once knocks down the powers; but even if the patient should again rally, there is great danger of his becoming idiotic. As Dr. Marshall Hall has so truly stated, under *irritation* exhaustion is sooner produced than in health; while under *inflammation* the system bears loss of blood with less exhaustion than in health. . . . . No one was more anxious than the late Dr. Abercrombie to point out the impropriety of depleting in many affections of the brain, even where there is wildness, excitement, and incoherency with great restlessness."

46. *Local Bleeding.*—There are but few cases of mania, whether depending upon irritation or on a congested state of the brain, which are not more or less benefited by judicious local depletion; and the more recent the case the more marked will be the advantage derived from the same. Almost every physician of any experience, who may lately have recorded his opinion on the value of local bloodletting in the treatment of mania, recommends its employment.

Leeches may be applied to the shaven scalp, or to the temples; or else the cupping-glasses may be had recourse to, applied either to the temples or to the nape of the neck. The former situation is to be preferred. Again, as Dr. Williams has well observed, "a very efficient way of relieving head symptoms, when dependent on visceral congestion, more especially of the liver, is applying leeches to the rectum, and, if considered necessary, subsequently placing the patient in a warm bath. A large quantity of blood may be lost in this way without producing much prostration." (Op. cit., p. 32.)

47. *Purgatives.*—In almost every case of mania the bowels are very torpid, the secretions vitiated, and there is generally a large accumulation of fæcal matter in the intestines. The bowels therefore require, in the first instance, to be freely evacuated. "Where no opposition is made by the patient," says Dr. Steward, "the choice of remedies is regulated by the same rules which guide us in the treatment of the same. Where there is difficulty in giving opening medicine, croton oil is valuable, because its bulk is small, and its operation generally certain; and should circumstances compel recourse to administration in food, it is not easily discovered. Calomel is a convenient purgative, on account of its being tasteless; but it is not a safe one, unless we can follow it by fluid medicine; for it very often produces its specific instead of its purgative effect. Jalap, being tasteless, is also a useful purgative. If all our efforts to give medicine fail, we must have recourse to small doses of the antimonii potassio tartras, which will soon act upon the bowels."

[In our opinion, the latter means of acting upon the bowels is the most valuable we possess for the treatment of the generality of recent cases of mania, reducing, as it does, alike arterial and nervous excitement, and producing copious fluid and bilious evacuations.]

The vitiated state of the secretions generally demand the *continued* use of some mild laxative.

* An Essay on the use of Narcotics and other Remedial Agents calculated to produce Sleep in the Treatment of Insanity. By Joseph Williams, M.D. London, 1845.

48. *Emetics.*—"Much difference of opinion," says Dr. Williams, "exists with respect to the advantages or disadvantages of emetics in the treatment of the insane. . . . . The objection often made to the employment of emetics is, that congestion of the brain caused by the [illegible] expulsatory efforts; but Sir William Ellis found the temporary inconvenience more than counterbalanced by the subsequent good effects. Many cases of vigilantia, dependent on monomania or even furious mania, will yield to ant. potass. tart., and often, on the vomiting ceasing, refreshing sleep will follow. . . . . There are cases of excitement where, although injudicious to bleed in any form, yet, administering an emetic will be found most useful. Patients who have not slept for several nights will often obtain many hours' sleep after vomiting has ceased." (Op. cit., p. 45.)

[In recent cases of mania there is generally an accumulation of phlegm, bile, &c., in the stomach, the evacuation of which is often attended by the happiest results.]

49. *Sedatives.*—Dr. Steward entirely condemns the use of sedatives in the treatment of the insane. "Sedatives with the insane," he says, "act generally, if not invariably, as stimulants. They exercise little or no influence over the insomnia of mania, which seems as it were a part of the disease, which resists all remedies, and which yields only when Nature, fairly tired out by long exertion, sinks exhausted, or when sleep comes, the harbinger of returning health. In what dose opium, conium, hyoscyamus, &c., might each produce its sedative effect in the delirium of mania I know not: neither should I dare to press the medicine so far, lest its sedative effect might be fatal." In this sweeping condemnation of the use of sedatives in the treatment of mania we cannot concur. Our limits forbidding us to enter minutely into the value of each and every sedative, which, by different recent writers, have been recommended for the treatment of mania, we feel assured that we cannot better supply this omission than by quoting the following practical remarks on the use of anodynes in the treatment of mania, recently placed on record by so distinguished a physician as Dr. Alexander Sutherland.

"*Anodynes.* These remedies are, according to my experience, of essential service in those cases of insanity which border closely upon delirium tremens; in cases of puerperal mania in the acute stage, and particularly in the paroxysms and sleeplessness of mania; in cases where there is great nervous irritability from poverty of blood; and in cases combined with cachexia from starvation and other causes. They seem to me to be contraindicated when there are symptoms of incomplete general paralysis and congestion of the head. Prescribed merely because the case is one of insanity, without taking into consideration physical symptoms accompanying it, or not in proper doses, or not given sufficiently often during the day as well as during the night—these remedies disappoint the practitioner. They keep up irritation, and add to the excitement, instead of allaying it. I have sometimes seen a very simple case converted into a very complicated one by the excessive use of anodynes. There is an idiosyncrasy, as every one knows, in some constitutions which does not admit of the exhibition of narcotics, especially morphia, even in the smallest dose. One eighth of a grain has been known to produce such incessant vomiting as to endanger the life of the patient. Great care should also be taken, even when the use of opiates is indicated, not to continue them too long; for if narcotization is produced, much harm will follow. The evacuations are hard and black, and the irritation is extreme. At St. Luke's, I have been in the habit, since my appointment to the hospital, of prescribing the acetate of morphia in solution with distilled water; in private practice I often combine it with distilled vinegar (a very old remedy in insanity). The hydrochlorate is

combined with advantage with dilute hydrochloric acid. I have found the meconiate of morphia very serviceable in cases where the two former preparations have not agreed with the patient. Hyoscyamus and conium are also very serviceable. I am in the habit, often, of prescribing the former in those cases where it is essential that the bowels should not become constipated; and as it also acts upon the kidneys and skin, it is likewise useful when we wish the increase of the secretions of those organs. Combined with the potassio-tartrate of antimony, henbane is useful also in paroxysms of furor. I have seen considerable lassitude follow the administration of f. ʒj tinct. hyos. with a quarter of a grain of the former repeated three times in the course of the day. This is, of course, in some cases, not to be desired. Combined with camphor, opium allays the irritability of those suffering under mania complicated with delirium tremens; and in the incipient paralysis of the insane tartar emetic is the remedy I place most confidence in. Conium is very useful either given alone or in combination with hyoscyamus and opium. The boasted effects of camphor have not been realised to the extent, at least, which some of its advocates have insisted upon. I think, however, its effects in allaying uterine irritation cannot be doubted. The combination of hop, camphor, and henbane is valuable in such cases. Stramonium is a remedy which has not succeeded in my hands, although I have tried it in large doses. Belladonna and aconite may be placed in the same category with stramonium. I obtained some good effect in the employment of aconite in a case of intermitting mania, where every other remedy had failed. The combination of narcotics is highly advantageous, but, of course, this is well known. I am not in the habit of prescribing narcotics as heroics; but it is material that they should be given in sufficiently large doses. A patient labouring under mania from drink requires large and often repeated doses of morphia or tinct. opii. Hydrocyanic acid is a very useful sedative, and is specially useful where there is pain and a sense of weight about the præcordia; it may be combined, according to circumstances, with an alkali and digitalis; which combination I have obtained benefit from in cases of great nervous excitement, with acid eructations and palpitations of the heart. Cannabis indica I have prescribed in many cases, I am sorry to say, without effect; the preparation, possibly, was not good, although I took great pains in procuring it. The difficulty of obtaining it, &c., and the uncertainty of its effect, must, I think, render the remedy inferior to others whose virtues have been long tested." (Appendix to Report of Commissioners in Lunacy, 1847.)

50. *Counter-irritants.*—"No set of remedies," says Dr. Stewart, "are more useful in symptomatic and organic mania than these. The cases in which counter-irritants are more particularly indicated are those where evident determination of blood to the brain warns us of approaching danger; or where mischief has been done to the brain by a previous attack of apoplexy, and future evil is apprehended. In these cases, as adjuvants to depletion, counter-irritants are of the greatest use. Also, they are useful in cases of symptomatic mania, where some accustomed evacuation or secretion has suddenly ceased." (Op. cit., p. 61.)

51. *Tonics*, accompanied with a liberal diet, and a moderate allowance of stimuli, are of great service in the more protracted cases of mania—an opinion recent experience has tended more and more to confirm.

52. *Baths.*—"In no persons," observes Dr. Steward, "is the circulation more unequal than in the insane. In none is it of more importance to preserve its equilibrium, and to produce and maintain a healthy and vigorous action in the superficial vessels."

In recent cases of mania, the *warm* bath, with cold lotions applied to the head, is often of great value in procuring sleep. "It will, generally," says Dr. Williams, "be found a very powerful means of diminishing cerebral congestion, and allaying irritation in maniacal cases. . . . . . In some cases the *cold* bath, if judiciously used, may prove very serviceable; and many patients who have suffered from partial or complete vigilantia have enjoyed profound sleep after immersion in the cold bath."

53. *Chloroform.*—"This remedy," says Dr. Skae,* "was used by me immediately after the discovery of its anæsthenic agency; and a number of observations were soon afterwards made with it—some of them in the presence of Professors Christison and Simpson. We found that it produced the same physiological effects upon the insane as upon the sane; and that the most violent and excited were almost immediately put into a state of calm and profound repose by its influence. As a curative agent, it has, as yet, been of no benefit in the treatment of the cases in this asylum, although I am not without hopes that in a certain class of cases it may be of use. I have, however, found it extremely serviceable for many minor purposes; such as the administration of food † by means of the stomach-pump, and of enemata, and in the performance of various necessary operations." [We recently saw the application of this agent in a most violent case of mania, in the Bethlehem Lunatic Hospital. It had, in this case, on several occasions, been had recourse to, but in each the previous symptoms recurred as soon as the physiological effects of the drug passed off.]

II. DEMENTIA.

The medical treatment of dementia resolves itself into an application of the principles of medicine to the physical symptoms of the case.

III. PARTIAL INSANITY.

54. *Melancholia.*—Dr. Seymour has devoted the third chapter of his recent work‡ to a consideration of the medical treatment of this variety of partial insanity, which he regards "as the most usually amenable to remedies." The remedy which Dr. Seymour lauds so highly in the treatment of melancholia is morphia. "During fifteen years," he says, "I have been anxiously watching the result of cases of melancholia treated on this system; upwards of seventy cases have recovered during that period of time, and I consider no case to be called a recovery unless two years, at least, of unabated health have elapsed since the treatment concluded. In nearly twenty cases the treatment has failed, or only given temporary relief . . . . . . The preparation (continues Dr. Seymour) which I have preferred, and, with two or three exceptions, I have always used, is the acetate of morphia. The mode of preparation—the solution:, forty drops of the solution which I have generally employed contain one grain of the alkaloid salt. It has generally been, in mild cases, my practice to begin by a quarter of a grain every night in solution; then, after a

* Physicians' Annual Report to the Managers of the Royal Edinburgh Asylum, 1847.

† In all probability the loss of sensation which accompanies the use of chloroform might greatly mask the ordinary symptoms which would indicate the passage of the œsophagus tube into the air-passages; and without great precaution a fatal accident might happen, which has taken place in careful hands without chloroform—the injection of the nutriment into the air-passages.

‡ Thoughts on the Nature and Treatment of several Severe Diseases of the Human Body. By Edward J. Seymour, M.D., &c. vol. i. London, 1847.

week, to increas[illegible]s to half a grain. It has rarely, in such cases, been necessary to increase the dose beyond half a grain. In severe cases, I begin with half a grain, and increase it speedily to a grain—rarely, most rarely, beyond this dose. The medicine is given at bedtime, and only at bedtime, the period which is intended for sleep; but it must be repeated, *without the intermission* of a single night, for several weeks in mild cases, for at the least three months in the most severe ones. In some of these cases, at first, sleep is not produced; in very few *rest* is not produced. Slight nausea and disturbance of the head are felt the first few mornings, but in these cases almost always at first, and *always after a short time*, but sleep is procured, and the waking hours are free from pain.

"The effect of the medicine is in precise analogy with what follows. Suppose a man toiling with professional anxieties, and with domestic cares, returns home after a larger proportion than usual of the annoyances of his profession or calling, fatigued beyond his powers, wearied in mind. He returns to rest unhappy, discontented, inveighing against his lot, and what he considers to be his peculiar cares. He sleeps sound, and when about to rise in the morning, the sun streaming in at the windows, after a sound sleep, how does he look upon the evils of the preceding day? Do they not lose a large portion of their affliction? Does he not look in a totally different point of view at the very causes of distress which afflicted him the night before?*

"And this is precisely what the effect of morphia, properly applied, effects in cases of melancholy mental derangement, but not once or twice, as would be the case in trifling distress. Hence it must be repeated regularly every night, until the nervous system is soothed. Thus it requires weeks for the medicine to be repeated regularly, even without a single intermission, and the cure is the result. . . . . . If the dose were constantly to be increased, then, indeed, a vicious habit would be incurred; but it is to be used in small quantities, regularly repeated, and *never increased beyond a certain point*, whether taken for six weeks or six years!"

[Dr. Seymour then proceeds to detail several cases in which this treatment proved successful, and then continues to remark on the other means of treatment to be adopted thus:]

"In the cases hitherto related, no remedy was, in the great majority, employed except the morphia, and taking the precaution of keeping the bowels open every alternate day. This is necessary, as in the first administration the morphia constipates; but after some days this disagreeable consequence disappears, and there are no longer white evacuations, or difficulty in the functions of the bowels. In two or three of these cases, in the first place ice was applied to the head; but this remedy is better adapted to the determination of blood to the organ of the brain in mania, where bloodletting cannot, without danger, be had recourse to. It undoubtedly exists where melancholy intermits with paroxysms of violence. There is another remedy which may

* This is beautifully referred to by the great poet of truth and nature, Sir Walter Scott. In 'Quentin Durward,' he draws the distinction between the feelings of fatigued and refreshed nature with all his wonderful power. Thus, after weariness and despair, he adds—

"Yet unwelcomely early as the tones came, they awakened him a different being in strength and spirit from what he had fallen asleep. Confidence in himself, and his fortunes returned with his reviving spirits, and with the rising sun, he thought of his love no longer as a desperate and fantastic dream, but as a high and invigorating principle to be cherished in his bosom, although he might never propose to himself, under the difficulties with which he was beset, to bring it to any prosperous issue." (Quentin Durward, vol. ii, p. 145.)

be employed,—though I have less often used it, from the inconvenience of its adoption *regularly*, day by day, in this large town—the *tepid bath*. It is, however, very useful in melancholy, especially in that arising in the puerperal state, and in women generally.

"On the first attack of this malady, *purgatives* may be used actively, to remove any obstruction in the bowels, and promote a free flow of the secretions; but in fixed cases, in my experience, purgatives (so called) do harm; they disturb the system, and lower the health of the patient. Hence they may be confined to regulate the state of the bowels, so that they may be relieved, at the least, every alternate day."

[In addition to the above remedies, we place great reliance on the occasional employment of emetics at bedtime, in the early stages of melancholia.]

IV. PUERPERAL INSANITY.

From an elaborate paper by Dr. Read* on this form of mental disease, we extract the following remarks on the treatment.

"The opinion," he says, "of the great majority of those who are in the habit of seeing puerperal mania is, that it does not depend on inflammation of the brain, but that its origin may be fairly traced to *cerebral irritation*, combined with great exhaustion of the nervous system generally."

55. "*Bleeding.*—From what experience I have had on this subject, I fully adhere to Dr. Gooch's opinion, that 'bloodletting is not only seldom or never necessary, but generally almost always pernicious.' I cannot recollect a case of *uncomplicated* puerperal mania in which the lancet was used; and in the most violent forms of the complaint, a few leeches to the head have been alone employed for the purpose of local depletion. Cases have been narrated both of this disease and of delirium tremens, in which a small bleeding from the arm has been followed by speedy dissolution."

56. "*Emetics* have been strongly recommended when the tongue is loaded and the breath foul, at the commencement of the attack. A combination of ipecacuanha, with antimony, appears to be the best form when there is not great debility or anæmia."

57. "*Purgatives.*—Every obstetric practitioner of experience must be aware how frequently a whole train of alarming symptoms occurring a few days after childbirth, and resembling the primary ones of puerperal fever, is at once subdued by an active aperient or by a turpentine enema, which rids the patient of copious and vitiated dejections; the same good result has often been found from their employment in puerperal mania. Large evacuations of this kind are in fact sometimes the first symptoms of recovery in the patient. Even in cases of unusual exhaustion, constipation should at least be avoided, and the bowels may be unloaded by means of gentle aperients and enemata of warm water. The form of the aperient will, of course, vary according to the nature of the case and the condition of the patient. I have found ʒj of the pulvis jalapæ compositus, given in treacle as an electuary, answer the purpose very well in several cases, and this may be repeated at intervals if required. Dark fetid evacuations are often dislodged; and many instances might be cited in which great improvement was immediately a consequence. Should there be a wish to get rid of the secretion of milk as soon as possible, the hydragogue aperients will be best adapted for the purpose."

58. "*Anodynes.*—Almost all authors on this subject recommend the em-

* The Journal of Psychological Medicine and Mental Pathology, Nos. 1 and 2, Art. Puerperal Insanity. January and April, 1848.

ployment of this class of medicines, taking the precaution previously of properly evacuating the bowels.

"Opiates seem peculiarly adapted to puerperal cases, especially when combined with some diffusible stimulus, such as ammonia, and more especially with camphor. *Small* doses of opium will, in many cases, increase irritability instead of allaying it; and it is a better plan in general to administer a large dose at night, and the effect may afterwards be kept up by repeated but smaller doses. The acetate or muriate of morphia in quarter-grain doses may be given at intervals; but I have frequently known half a grain, and even one grain, given at short intervals, in otherwise intractable cases, with good effect; and this has been increased by combining with the morphia half-grain doses of the antimonii pot. tartrat. Dover's powder is another form of similar combination, which often proves a valuable remedy. An occasional change in the anodyne is advisable in those cases which require the daily exhibition of such a remedy. Thus half a grain of muriate or acetate of morphia may be administered at one time, a drachm of tinct. hyoscyami at another, and ten grains of Dover's powder on a third occasion; thus varying the form when the repetition of the same medicine seems to diminish its effect. There are instances in which opium, in any shape, gives no relief in procuring sleep, but, on the contrary, appears to aggravate the insomnia and irritability. In one such case, I found the employment of the hydrocyanic acid attended with the most beneficial effects. Five-drop doses of the diluted acid in camphor julep, at intervals of four hours, were administered to the lady, and gradually procured a calm state of mind, and some refreshing repose. The cannabis indicus, or Indian hemp, has been known frequently to succeed in procuring rest, after the different preparations of opium had failed; the tincture is the best form, and is employed in doses of from twenty to sixty drops. As it is a great object to break the continuance of the sleeplessness, in such cases the continual use of the chloroform vapour will be found valuable. I have had an opportunity of seeing more than one case in which it not only induced sleep, which had previously been absent for four or five nights and days, but the patient on recovering from its effects was found to be quite tractable, and free from violence. I am bound, however, to add, that in some cases in which it has been tried by other practitioners, no beneficial effect was produced.

"As a sedative application, the employment of the *warm* and *tepid bath* has been found of great service in cases of puerperal mania; it allays the great irritability, causes the skin to perform its functions more healthily, tends to restore the secretions to a proper state, and soothes the patient. Iced lotions to the heated scalp may be applied at the same time. Many authors speak most highly of the effects produced on females by the use of such baths, especially when any suppression has occurred. In some cases, the cold bath, the shower-bath, and the practice recommended by Dr. Currie, viz. placing the patient in an empty bath, and pouring water on the head, have been attended with marked benefit. In all these forms it is better, however, to commence with the water tepid, and gradually to lessen the temperature in the succeeding applications. Numerous instances exist in which the tonic effect of the shower-bath has produced excellent results, but it has been employed at a period some weeks after parturition. When the patient exhibits great watchfulness and inability to sleep, notwithstanding the employment of all sedatives, and this is combined with unusual irritability of manner and quick pulse, the case requires our most anxious attention, and every method possible to allay such excitement should be in succession tried. The room should be darkened, and kept perfectly quiet and cool; the covering on the bed should not be more than is sufficient; a mattress should be substituted

for the feather-bed, if the latter be used; and it is most essential that a nurse endowed with good sense and experience should be in attendance."

59. "*Counter-irritation* is sometimes of considerable advantage under such circumstances, and a blister to the spine or dry cupping over that part will sometimes produce excellent effect. Esquirol speaks very favorably of blisters in the later stages of this form of insanity, when applied between the shoulders.

"In the *adynamic* form, attendant upon *undue lactation*, it is especially requisite to avoid any depletion or low diet. Sedatives are as important as in the other cases; and in addition to these, the use of tonics, such as quinine, bitter infusions with the mineral acids, the various preparations of iron, the moderate use of wine and beer, and, if possible, after a time a change to the invigorating breezes of the sea-side or a quiet village, will be advisable. One of the best means of lessening the irritability of the brain and the want of sleep, is shaving the head, and a persevering employment of refrigerant lotions to that part."

V. GENERAL PARALYSIS OF THE INSANE.

60. "General paralysis," say the Commissioners in Lunacy, "has been almost invariably thought to be hopeless of recovery, and its victims usually perish within two or, at least, three years from the commencement of the disease. . . . . . Most of the medical officers who have had great experience in the treatment of general paralysis recommend, especially in the early stages, the use of all those means which are generally adopted with the intent of reducing too great vascular fulness in the head. They advise shaving the head, the application of leeches to the head or neck, cupping-glasses to the neck, repeated blisters on the head or neck, setons in the neck, and the use of mercury and purgative medicines. Patients labouring under general paralysis are well known to be liable to paroxysms which resemble epileptic fits, and which often terminate fatally. In these instances recourse is generally had to topical bleeding by cupping-glasses. [In all cases of general paralysis, even while these depletory measures are being used, a stimulating diet will be found necessary.]

"In the later stages of general paralysis, there is not only a loss of the powers of animal life, locomotion, articulation, and of command over the sphincters, but the tone of the blood-vessels and the vitality of the solid parts are greatly reduced, a great tendency to sloughing, especially over the sacrum, exists, and extensive ulcerations further undermine the strength, and tend to bring on dissolution. To obviate these evils in some degree care is requisite. The use of hydrostatic beds is often resorted to."

[These Reports will be continued as occasion demands.—ED.]

NOTE to § VIII, No. 41, '*Chemical Pathology of the Blood*,' (p. 403).—Since writing this Report, we have received Mr. Sheppard's 'Observations on the Proximate Cause of Insanity,' London 1844; the perusal of which has increased the surprise we have already expressed (foot-note p. 403) that Dr. Burnett, in his essay 'Insanity Tested by Science,' &c., London 1848, should appear to imagine himself to be the originator of the theory that insanity may be a disease seated in the blood, and that his work should contain no mention at all of Mr. Sheppard's *earlier* publication on the *same subject*.



BOOKS RECEIVED.

1. Practical Observations on Midwifery and Diseases Incidental to the Puerperal State. By Drs. M'Clintock and Hardy. Dublin, pp. 368.
2. Pocket Dispensatory. By John Mayne.
3. The Philosophy of Animated Nature. By Dr. Calvert Holland. pp. 512.
4. British Cholera, its Nature and Causes. By Spencer Thomson, Esq. pp. 110.
5. The Recent Advances in the Physiology of Motion, &c. By Drs. Baly and Kirkes. pp. 132.
6. Insanity Tested by Science. By Dr. Burnett. pp. 106.
7. On Stomach and Renal Diseases. By Dr. Prout. 5th edit. pp. 596.
8. Treatise on Diet and Regimen. By Dr. Robertson. Vol. II, pp. 361.
11. History, Description, and Statistics of the Bloomingdale Asylum for the Insane. By Dr. Pliny Earle. pp. 136.
12. Report of the Pennsylvania Hospital for the Insane, 1847. By Dr. Kirkbride. pp. 46.
13. The Twenty-Seventh Annual Report of the Bloomingdale Asylum. By Dr. Pliny Earle.
14. On Functional Diseases of the Liver, Associated with Uterine Derangement. By Dr. Butler Lane. pp. 32. (*In our next.*)
15. An Essay on the Epileptic Form of Puerperal Convulsions. By Joseph Thompson, M.R.C.S. pp. 74. (*In our next.*)
16. Ununited Fracture Healed by Subcutaneous Puncture. By James Miller, F.R.C.S.E. pp. 8.
17. Essays on Diseases of the Nervous System. By Dr. Marshall Hall. pp. 71.

PAMPHLETS AND REPRINTS.

1. Ventilation Illustrated.
2. Treatment of Chronic Inflammation in the Bladder by Injections of Nitrate of Silver. By Dr. M'Donnell. pp. 12.
3. The Cholera not to be Arrested by Quarantine. By Dr. Gavin Milroy. pp. 51.
4. Remarks on the Conduct and Duties of Young Physicians. By Dr. Simpson. pp. 23.
5. Microscopic Anatomy. By Mr. Hassall. Parts X, XI, XII.
6. On Inhalation of Chloroform. By Dr. Snow.
7. Answer to the Religious Objections to the Induction of Anæsthesia in Midwifery. By Dr. Simpson. pp. 24.
8. On Foreign Bodies in the Air-Passages. By Dr. Mason Warren. pp. 68.
9. Etherization, with Surgical Remarks. By Dr. John C. Warren. pp. 100.
10. Observations on the Cultivation of Organic Science. By Richard Grainger, F.R.S. pp. 60.

IN EXCHANGE.

British and Foreign Medico-Chirurgical Review. (Jan. April, 1848.)

Dublin Quarterly Journal of Medical Science. (Feb., May.)

Monthly Journal and Retrospect of Medical Science. (Jan., Feb., March, April, May, June.)

American Journal of the Medical Sciences. (Jan. April.)

British American Journal. From Jan.

Boston Medical and Surgical Journal. From January.

Philadelphia Medical Examiner. From January.

Medical Times. From January.

Journal of Psychological Medicine. (Jan. April.)

British Record of Obstetrical Medicine and Surgery. (*From the commencement.*)

Pharmaceutical Journal. (Dec., Jan., Feb., March, April, May, June.)

INDEX TO VOL. VII.

END OF VOL VII.

C. AND J. ADLARD, PRINTERS, BARTHOLOMEW CLOSE.